



# Early Years Teachers' Manual

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## Introduction

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Welcome to the International Primary Curriculum Early Years Programme.

This binder provides you with the up-to-date background information about the IPC Early Years Programme and the Learning Strands, which are of central importance to everything. The background information tells you about:

- Teaching the IPC Early Years
- The beliefs and principles
- The issues behind the IPC Early Years
- How to produce your own IPC Early Years unit
- The subject coverage of the units
- Brain-friendly learning
- The most frequently used terms in the IPC

All this information can also be found on the IPC website:

**[www.internationalprimarycurriculum.com](http://www.internationalprimarycurriculum.com)**

Try to look at our website as often as you can. Updates to this printed information, new information still to be written and ideas shared between yourself and other colleagues using the IPC Early Years can all be found there.

The other binders — and the website — provide you with all the units of work. Combined together, the IPC Early Years provides you with all of the practical help you need to organise a structured curriculum in your school and to help yourself and colleagues teach effectively in the classroom. Teaching effectively, of course, means helping children to learn. The IPC Early Years is packed with activities and ideas which help children learn as actively as possible.

We wish you well in your use and implementation of the IPC Early Years and we look forward to having you join as part of the IPC's community of learners.

## The International Primary Curriculum Early Years

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### **Beliefs and principles**

The International Primary Curriculum Early Years Programme is a practical tool for teachers to help children learn. Behind the practical components of the IPC Early Years are a number of beliefs about education, teaching, learning and curriculum that govern both the contents of the IPC Early Years and the way it works.

It is necessary to establish principles which, while they may be adapted to suit individual schools, underpin the IPC at Early Years level.

These principles can be summarised as follows:

- The overriding purpose of Early Years education is to help children develop the skills and attitudes they will need both at this level and throughout a lifetime of learning
- Children need a holistic educational experience that doesn't create artificial boundaries between different aspects of their development
- Play is an essential part of children's learning and general development

### **Learning**

Children's learning is the central purpose of everything connected with the IPC Early Years. Helping children learn — academically, socially, spiritually, emotionally, physically — is the only real purpose of schools.

What children learn should respect the past but should be of help to them in their future lives. This involves a degree of prediction which may not always be accurate and which will always need to be revised. Prediction is a risk. Not to engage in it is a much bigger risk to children.

Children's learning must respond to their current and future personal needs, their future career needs and the needs of the varied societies and cultural groups in which they are likely to play a part.

Learning needs to be active, in the sense that children must engage with their own learning. For Early Years children, this means that learning which is relevant to the future must be placed in a context that is meaningful to their present lives.

Children need to share responsibility for their learning with their teachers, parents and carers. The proportion of responsibility each bears will depend on the age and characteristics of the children.

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Nevertheless, learning must be constructed in such a way that, by the end of the primary years, children begin to see and experience the potential for taking responsibility for their own learning.

## Teaching

The purpose of teaching is to facilitate children's learning in appropriate ways. Wherever possible, teaching should also be enjoyable for teachers.

The ownership of 'good' teaching is rooted more in the highly developed learning of children than it is in highly enjoyable teaching or successful curriculum development.

Early Years teachers need to be both teacher-as-facilitator and teacher-as-deliverer.

Teachers are likely to be more successful in helping children learn if they work closely with colleagues, parents and other members of the child's community.

Teachers should spend more time thinking about helping individual children learn than writing whole-school curricula. It is important to support teachers with well-designed, up-to-date, practical and relevant help.

## An International Primary Curriculum

An effective curriculum is one that provides the most appropriate support for teachers and others to develop children's learning.

A curriculum begins with a set of standards or learning outcomes which clearly defines what children should be capable of at certain important periods of their development.

Not all of these standards or learning outcomes are measurable. Some will require judgement. There is nothing wrong in this.

The curriculum must provide opportunities for teachers to assess or judge the quality of children's learning through a range of assessment or evaluative opportunities.

The curriculum must address the development of knowledge, skills and understanding in three key areas — subjects, personal development and international understanding. The last of these must be a component of any curriculum designed for international primary schools.

Such a curriculum is respectful of teachers in that it provides them with most of the tools they will need to encourage effective learning but it allows opportunity for teachers to bring these tools to life in the classroom and to develop school-specific tools for use in their own location.

The curriculum design is influenced by two ideas. First, the key concepts of independence and interdependence which underpin our view of what it is have an international mind-set and, second, the lessons learnt as a result of a decade of research into the brain and the development of brain-friendly learning and teaching strategies.



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## **Schools**

The IPC Early Years respects the particular opportunities and difficulties experienced by international schools and seeks to build on the opportunities and ameliorate the difficulties.

The IPC Early Years seeks to utilise the opportunities offered by the unique location of international schools through the provision of templates that schools can use to devise their own units of work.

## **Partnerships**

The IPC Early Years seeks to model its view of the importance of independence and interdependence in its relationships with other organisations and groups. To this end, whilst the IPC Early Years is an independent curriculum with a very specific view about the development of learning, the organisation of teaching and the shape of the curriculum, it also:

- Seeks to work with other organisations
- Does not claim to be the only appropriate curriculum for international primary and elementary schools (in fact, it expects a number of curricula to exist which, whilst sharing the same overall aim, respond differently to the varying needs of schools)
- Will involve other organisations in providing the quality control mechanisms necessary to ensure that the curriculum is internally consistent
- Links with the IPC main programme

## Teaching the IPC Early Years Programme

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### Introduction

As a teacher you have a chance to make a difference. You are, and always will be, one of the most important influences in the lives of the children you teach. That's why teaching is so important — and so challenging. Do a good job and you have a positive influence on the next generation. Do a job that isn't so good, though, and this will have its effect too.

What does this mean? It means that you are in a position to help children develop their knowledge, skills and understanding across a whole range of subjects. It means that you will add much to the children's excitement in learning rather than their thinking it simply something to be gone through. It means that you have the chance to help them develop their own identity and increase the range of personal attributes they will take with them into their later lives.

And because you teach in an international school you also have a better chance than anyone else to work in a context where you can both embody and develop those characteristics which show how peoples of the world can live together. In other words, you are best positioned to help your children develop an international mind-set. At the very least, this means helping children see:

- How they can get along and how they can disagree in a way that is helpful
- How they can be proud of their own national heritage and culture and, at the same time, be deeply respectful of the heritage and culture of others
- How they can achieve more by coming together than by staying apart

If all of this is the positive side of teaching it is also the challenge facing you and your colleagues today — facilitating the development of knowledge, skills and understanding, personal awareness and an international mind-set.

You need — and deserve — help in all this. You can't do it on your own and you shouldn't have to. Some of that help will come from other colleagues, some from parents and some from the children you teach. But some of that help also has to come from the structures and systems of your school. The curriculum you use is one of the most important of these.

Quite simply, the International Primary Curriculum Early Years Programme has been produced to respond to that need. Whilst it needs you to bring it alive, it does provide you with an enormous amount of help. This short guide gives some idea of the important issues you need to think about when using it with the children in your class.

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## **Where good learning comes from — and why a curriculum is important**

Children learn what they learn from all sorts of places, people and experiences. Much of this learning is accidental — it just happens.

Accidental learning takes place in schools as well as everywhere else. There are so many opportunities — during breaks and recess, in the 'busy-ness' of the whole daily experience. But schools are also places especially set up to encourage learning. A school isn't really a school unless a great deal of deliberate learning takes place. Deliberate, planned learning is what schools are for. And that is the challenge facing all of us in the profession, including you and your colleagues.

You are responsible for that deliberate learning. That's why you are so important. You are more important than the resources you have, the buildings you are in, the quality of your principal, headteacher or superintendent and, dare we say it, more important than your curriculum. A teacher with great resources, a great building, a great principal, great parental support and a great curriculum can still very easily make learning a dull or negative experience for children. And it is equally true that a great teacher can do so much more than his or her resources.

Nevertheless, you need support. If you have ever tried to teach in a poorly organised school, or one with poor resources, or a school with no vision, you'll know what we mean. If you have good support systems then you also have the opportunity to teach as well as you can.

A curriculum — any curriculum — is one of your most important support systems. The International Primary Curriculum Early Years has been written to help you be the best teacher you can and, even more importantly, help your children receive the best international education possible.

## **International schools**

International schools can differ quite dramatically in terms of their organisation and structure. In fact it is extremely hard to accept that there is one universally accepted definition of an international school. The type of school is dependent on so many factors. It is often necessary to examine why the school was set up in the first place and by whom, to determine what its philosophy and beliefs are and to look at its clientele. A school's location is very clearly an important consideration.

There are other considerations also:

## **Age of admission**

An important issue for international schools is age of admission. Different schools will have different admission ages depending on their facilities, their tradition, their situation, and the demand from parents. Expectations from parents about what their children will do



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once they are in school might vary according to their previous experience, their aspirations and their cultural and national background. The expectations of teachers might also vary for similar reasons.

## **Class organisation**

Another issue is that of class organisation. Some schools have separate classes for four- and five-year-olds. Others — perhaps because of size or because of educational philosophy — have mixed age classes in which Early Years children are taught alongside older ones.

For these very clear reasons the IPC is designed to be flexible. It has to fit into many different structures and organisations. Schools are free to adapt the programme to suit their needs and the learning strands provide the foundation on which adaptability can be based.

## The Learning Strands

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### **Descriptions of Early Years provision**

What follows is a set of descriptions of the things about which children aged four and five should learn. Through this learning, they will develop the skills and attitudes they need to work towards the IPC learning goals at Milepost 1.

The point at which children actually start working towards the Milepost 1 goals will depend on their individual circumstances and needs. It will also depend on the professional judgement of their teachers. Most children will probably start this process around the age of five or six years. It is important for the long term, however, that before doing so they have experienced the sort of learning described here. That will help to establish a firm foundation on which their continuing education can build.

The learning of children aged four to five is described in four strands:

#### **1. Independence and interdependence**

This strand focuses to a large extent on the children's personal goals and their relationships with other children

#### **2. Communicating**

This strand is primarily about developing skills in communication including speaking and listening, reading and writing, early numeracy work and the expressive arts

#### **3. Exploring**

Through this strand the children's skills in inquiry are developed

#### **4. Healthy living.**

Using the statements within this strand children are encouraged to understand how to look after themselves and each other

## Strand 1: Independence and interdependence

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Children learn about:

- 1.1 Their own rights and those of others
- 1.2 Diversity
- 1.3 Standing up for themselves and others
- 1.4 Their own gender and the opposite gender
- 1.5 Their own ethnic group and other ethnic groups
- 1.6 Their family background
- 1.7 Respecting and interacting with people who are different from themselves
- 1.8 Their relationships with others
- 1.9 Their ability to acquire new interests and skills
- 1.10 Their own particular strengths
- 1.11 Interpersonal skills
- 1.12 Strategies for solving conflicts in peaceful ways
- 1.13 Positive and constructive attitudes to competition
- 1.14 Taking another's point of view
- 1.15 Empathising with others
- 1.16 Taking part in group activities
- 1.17 Playing alone, alongside others and with others
- 1.18 Taking responsibility for their own actions
- 1.19 Expressing disagreement and difference of opinion in appropriate ways, respecting rules about their relationship with others and their environment
- 1.20 The links between school and the wider world
- 1.21 The local area
- 1.22 Playing an active part in school activities

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- 1.23 Caring for the immediate environment
- 1.24 Expressing their own ideas
- 1.25 Taking on different roles in different contexts
- 1.26 The routines, customs and regular events of school
- 1.27 Rules, responsibilities and rights
- 1.28 Acceptable behaviour

## Strand 2: Communicating

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Children learn about:

- 2.1 Using gesture and expressive body movement for communication
- 2.2 Understanding non-verbal messages
- 2.3 Using language skills in a variety of contexts
- 2.4 Using repetitive sounds and words, aspects of language such as rhythm, rhyme and alliteration, and to enjoy stories and rhymes
- 2.5 The practical use of at least one language
- 2.6 The value of their first language
- 2.7 Enjoying and using verbal communication
- 2.8 Listening attentively and responding appropriately to others
- 2.9 Using words, pictures, print, numbers, sounds, shapes, models, photographs and ICT to represent thoughts, experiences and ideas
- 2.10 Exploring and observing the use of print
- 2.11 Stories and literature valued by the cultures in their community
- 2.12 Enjoying and using words and books
- 2.13 Exploring and observing the use of numbers in purposeful activities
- 2.14 Using mathematical symbols and concepts
- 2.15 Enjoying and using numbers
- 2.16 Some of the technology and resources used for mathematics, reading and writing
- 2.17 Creating stories and symbols
- 2.18 Materials and technology used in creative and expressive arts
- 2.19 Using the processes of art and craft
- 2.20 Using different media to express a mood or a feeling or for representing information
- 2.21 Being creative and expressive through a variety of activities
- 2.22 Singing songs, including songs of their own and those from different countries and cultures

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- 2.23 A selection of the art, craft, songs, music and stories which are valued by the cultures in the community
- 2.24 Enjoying and using music, art, drama and dance
- 2.25 A variety of types of music, art, dance and drama used as expressions of feeling, mood, situation, occasion and culture.



## Strand 3: Exploring

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Children learn about:

- 3.1 Making decisions, choosing their own materials and setting their own problems
- 3.2 Taking responsibility for their own learning
- 3.3 Trying things out, using exploration and curiosity as important and valued ways of learning
- 3.4 Taking part in symbolic, pretend or dramatic play
- 3.5 Playing with ideas and materials as an enjoyable, creative and valid approach to learning
- 3.6 Controlling their bodies and developing fine and gross motor control
- 3.7 Actively exploring and making sense of the world by using tools, materials and equipment
- 3.8 Moving in space and moving to rhythm
- 3.9 Using a variety of strategies for exploring and making sense of the world
- 3.10 Setting and solving problems
- 3.11 Looking for patterns, classifying things for a purpose, guessing, using trial and error
- 3.12 Thinking logically, making comparisons and asking questions
- 3.13 Explaining, listening to others, taking part in reflective discussion, planning and observing
- 3.14 Identifying and using information from a range of sources
- 3.15 Choosing and experimenting with materials, playing with ideas, and exploring actively with all the senses
- 3.16 Representing their discoveries using a variety of media, including ICT
- 3.17 Enquiring, researching and exploring to draw conclusions about the world around them
- 3.18 A range of materials in daily use
- 3.19 Spatial representations such as maps, diagrams, photographs and drawings
- 3.20 Stories including myths, legends and other fiction

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- 3.21 The Earth and beyond
- 3.22 Significant features of the locality
- 3.23 Social relationships and social concepts, such as friendship and authority, and social rules and understandings
- 3.24 The natural environment and their own place in it
- 3.25 Responsibility for the well-being of both the living and the non-living environment
- 3.26 The living world and how to care for it

## Strand 4: Healthy living

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Children learn about:

- 4.1 Keeping themselves healthy
- 4.2 Self-help and self-care
- 4.3 Making choices
- 4.4 Paying attention
- 4.5 Concentrating
- 4.6 Coping with change
- 4.7 Their own personal worth
- 4.8 Expressing emotions and emotional needs
- 4.9 Keeping themselves safe from harm

## Teaching the learning strands

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In each specific unit of work (we will discuss units of work later), the overall learning strands of the IPC have been identified.

These learning strands are so central to the IPC Early Years that you might want to think about the language you use when you are communicating with children, colleagues and parents. When using the learning strands teachers should remember that IPC Early Years teachers talk about what children have learned before they talk about what children have done. The clear, precise learning strands and targets give you the chance to do that.

The precise wording of the learning strands helps you to identify different types of appropriate learning activities.

All of the strands include opportunities for the development of knowledge, skills and understanding. It is important to distinguish between these.

‘Knowledge’ refers to factual information (My name is Thomas). Knowledge is relatively straightforward to teach, even if it is not always that easy to recall. You can ask your children to research the knowledge they have to learn but you could also tell them in a class lesson during circle time for example.

‘Skills’ refers to things children are able to do (I can carry out an investigation in science, read a map or research a book). Skills have to be learned practically. The IPC Early Years Programme is an active, practical curriculum for much of the time. This means that your classroom must have a considerable amount of practical activity going on if these skills are to be learned. And this practical activity is likely to take time.

‘Understanding’ refers to the consideration of big ideas. Understanding is always developing. None of us ever ‘gets there’. Try saying ‘I understand the idea of “monarchy”, or “interdependence” or “beauty”’. So, you can’t teach understanding. What you can do is provide a whole range of different experiences through which children’s understandings can deepen.

So, as a teacher working towards the learning strands of the IPC, you will at different times be leading whole class circle or carpet times, teaching individuals and small groups, facilitating practical work and highlighting the big ideas every now and then.

## The units of work

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### Which unit to choose?

At the time of writing, the programme consists of 16 units of work, each based on a theme chosen to appeal to young children — sand and water, for example.

More units are being developed.

Each unit will last for between four and six weeks, depending upon the interest level of the children, the length of the school day and how well the setting lends itself to a particular focus or context.

There is no correct route through the units, as teachers will be able to choose from the 17 units available which themes are most appropriate to their situation.

The two exceptions to this are the units 'Family and Friends' and 'All About Me'. These have been written especially for the first few weeks of a school year as they deal with routines and systems and with getting to know the school and each other.

In some settings — stand-alone nursery or Early Years units, for example — teachers will have the freedom to choose from the units, possibly matching the cycle of the units to their particular context — looking at weather patterns or other local constraints and possibilities. 'Plants and Flowers' obviously lends itself to a time when children will be able to spend time exploring out of doors.

In other settings teachers may need to liaise with colleagues in other parts of the school and decide on a map through the units which complements the curriculum planning in the rest of the school.

### Before you begin

Each unit has the same basic structure which includes the following:

- Introduction
- The learning strands
- An entry point activity
- International dimension
- Explaining the Theme
- The Big Picture
- Assessment advice/opportunities relevant to this particular unit

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- Resources needed
- Draft letter to parents
- Planning Grids

The units are structured like this in response to what we now know about how children learn. Brain-friendly learning techniques are employed throughout the units. For more information on this please read the brain-friendly learning chapter. What follows are brief explanations about how the unit structure relates to the ideas explained in this chapter.

## **The introduction**

In this section teachers are given an indication of how long the unit will last. This is a rough estimate as some units of work may be extended or shortened depending on the interest and ability of the children and special events taking place in school.

## **The learning strands**

As previously mentioned these are clearly defined descriptions of what children should learn. Even young children perform better when they know what is expected of them. The learning strands help bring clarity to the learning process.

## **Entry point**

An activity for children that begins each unit of work and provides an exciting introduction to the work that is to follow. Entry points can last from one hour to a week, depending on the age of the children and the appropriateness of the activity. The entry point is based on the work of people such as Howard Gardner who have pointed out that the best learning takes place when the learner is highly motivated. The entry point should be of high interest and fun. We like to call it the 'wow factor'. The measure of a good entry point is children running out of school to tell their parents what they did that day. It sets up the interest base for the rest of the learning.

## **The International Dimension**

This gives clear information about how children can work toward the international goals of the IPC through activities focusing on home and host countries. These activities should develop in children, knowledge and understanding beyond that related to their own nationality, and an understanding of the independence and interdependence of peoples, countries and cultures. It should enable children to adapt to other education systems and develop both a national and an international perspective. For more information on this please read the chapter on international curriculum.



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## **Explaining the theme**

This provides the information teachers need to give children an overview of the work they will be doing and what they will be learning. As previously mentioned the best learning takes place when children are involved and know what is expected. In IPC 6-12 classrooms extracts from this section are often displayed on the walls of the classroom. Also a lot of the information in this section can be found in the letter to parents.

## **The big picture**

The 'big picture' section provides the information teachers need to give key information lessons to their children. The amount and kind of information will vary from unit to unit.

## **Assessment**

This provides teachers with ways to assess children's development of their skills and understanding in particular and gives suggestions for practical activities. It also clarifies what is being assessed.

## **Resources**

This clearly lists the resources needed for each subject section of the unit. Resources are often an issue for schools so we try to make them non specific. However, some units are quite dependent on a particular story. It is very worthwhile to check the resource lists at least one term before you plan to teach the unit as some resources may need to be ordered.

## **Draft letter to parents**

Each unit contains a draft letter that teachers can send home to parents. We now know that children learn better when parents are positively involved in the learning process. Parents need to be informed and included. These letters not only tell them what learning is taking place or targeted but how they can help at home and in school.

## **Planning grids**

These are explained in the next section.

## Using the planning grids

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Each unit consists of a wide variety of activities. These are presented on planning grids. These are designed to support the practicalities of daily planning and to ensure that the planning gives the children the opportunity to:

- Work within all four strands and develop a range of skills
- Employ a wide repertoire of multiple intelligences
- Encourage an international mindset

There are six columns in the grid for each unit, to enable you to find the information you need quickly and easily.

### **Column one — planning advice**

This is a very practical aid to teachers' medium and short-term planning.

It helps teachers plan the 'where' by identifying the physical area of the classroom where the activity is most likely to take place. So, for example, a teacher would be able to see whether the construction area or quiet corner was needed and be able to plan for optimum use of the resources available.

It helps teachers plan the 'when'. Some activities are best planned within the first week or so of the unit and others are dependent upon the learning and experiences developed within these early weeks.

### **Column two — the activities**

This column contains the ideas for activities. Many of these are starting points and teachers will be able to use them as a springboard for their own ideas. Some of these activities will be on-going over a number of weeks, whilst others may last for one or two sessions.

A significant feature of the Early Years Programme is that it offers teachers a framework within which they can respond to particular features of their locality and setting and to the needs of the class group.

The activities should therefore be seen as neither an exhaustive nor a compulsory list. Teachers should enjoy the freedom to extend and amend the activities and to omit any which are unsuitable for their particular setting or the age or interest level of their class.

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## Column three — task number

This column was added in response to comments from teachers who had trialled the units. They found that if each task or activity had a number then they could simply identify each task numerically in their short-term planning thus saving the unnecessary work involved in copying out the activities.

Some teachers also felt the need to identify the main intended focus of the children's learning. The following abbreviations are used to support this planning:

- M Mathematical focus
- Lit Language/literacy focus
- Ph. Physical development
- Cr. Creative development
- Mu. Musical development
- K/U. Knowledge and understanding of the world
- R.P. Role play

It needs to be emphasised, however, that these abbreviations are a tool to support short-term planning only and teachers working within the Early Years Programme will need to be guided and influenced by the four strands when thinking about medium-term planning.

In many ways their value is transitional in that it will help teachers who are used to planning under subject headings or within the areas of learning to make links with the learning offered within the strands and begins to develop links with the more subject-based approach of the age 6—12 programme.

Teachers may wish to develop their own numbering and coding system to identify the activities in their short-term planning.

Please note that the numbering is not intended to be hierarchical — i.e. Musical development task 2 does not necessarily need to come after Musical development task 3.

## Column four — the strands

This column shows the main intended coverage of the strands. Each strand is identified, followed by a number which relates to the numbered point within that particular strand. So, for example,

Independence and interdependence

- 9

refers to point 1.9, in which children learn about 'their ability to acquire new interests and skills'. (See 'The learning strands' above.)

It is worth noting here that only the main intended focus can be identified. Early years

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teachers will know that sometimes young children can work within a planned activity and develop skills, knowledge and understanding which are outside the scope of what has been planned.

Teachers may well use this column as a starting point for their planning, if they feel that individual children or groups in their class need to develop the learning described within one particular strand or bullet point. The matrices (see later) identifying the coverage within each unit are designed to support this process.

## Column five — multiple intelligences

The IPC is based on current research into brain-friendly learning (see the section on 'Brain-friendly learning'). This column identifies which of the following multiple intelligences the children will be using when engaged in the tasks or activities:

- Interpersonal
- Intrapersonal
- Kinaesthetic
- Verbal-linguistic
- Mathematical-logical
- Musical
- Naturalist
- Visual-spatial

Again, teachers may use this information as the starting point for their planning if they feel that a particular child or group of children needs to engage with their learning via one or more of these intelligences.

## Column six — international dimension

The Early Years Programme reflects the commitment of the whole International Primary Curriculum to the development of an international mindset. This column identifies some of the possibilities within the activities and relates them to the international goals for the end of Milepost One of the IPC main programme which are:

At Milepost 1 of the IPC main programme the following goals are identified:

By the end of the school year in which they are seven, the vast majority of children will, through their study of the International Primary Curriculum:

- 1.1 Know that children within the class and school have different home countries
- 1.2 Know the names and approximate locations of the home countries of children within the class (and/or school)

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- 1.3 Know about some of the similarities and differences between the lives of children in the different home countries and in the host country
- 1.4 Be able to respect one another's individuality and independence
- 1.5 Be able to work with each other where appropriate

## Planning

It may be useful for teachers to see the planning in three sections:

1. Long term — this is the whole Early Years Programme, rooted in the beliefs and principles of the IPC.
2. Medium term — this is the planned route through the units and an overview of the number of weeks devoted to each unit.
3. Short term — teachers will need to plan a way through each unit. It may be helpful to sketch in the main coverage of the tasks over a certain number of weeks.

### Medium term Planning

The following example planning route for the units suggests a coverage which is suitable for a school with a separate Nursery and Reception (Pre K and Kindergarten).

There is no 'correct' route through the units, but the contexts have been chosen so as to avoid any repetition or overlap with the contexts chosen for milepost one classes of the IPC 6-12 programme. So, for example, if 'Structures' is being taught in the first year of Elementary/Primary school then 'Houses and homes' would be best covered in the Nursery year.

The units 'All about me' and 'Family and friends' are best suited to the first term in school, as they have a significant focus on roles, routines and getting to know each other.

Example planning route for one year:

Term 1	Term 2	Term 3
All about me	Bears	Sand and Water
Animals	Shopping	Patterns

### Short term planning

The suggested activities within each unit should be seen as neither an exhaustive, nor a compulsory list. Teachers should enjoy the freedom to extend and amend the activities and to omit any which are unsuitable for their particular setting or the age/interest levels of their class.

It is important, however, that the balance of coverage, both of the intended learning within the strands and of the multiple intelligences is maintained. It is all too easy to fall into the trap of planning within your own comfort or interest level and to present a curriculum which reflects your own particular learning style.



# THE EARLY YEARS

Similarly, there is no 'right' path through the activities, although some are highlighted as being most suitable for the early stages and others for the latter stage of the unit. The planning grid may help teachers plot their own route through the activities and experiences.

Teachers will need to select a main focus for the session, which may have a follow-on activity. They will then need to 'mix and match' a number of activities, most of which will need to be self-sustaining. These activities could be on-going for a week or more — for example, playing with cups and teapots in the water tray may well capture the children's interest for several sessions, whereas cutting and sticking a picture of a house may only last for one morning.

It is also important at this level to consider the variety of learning styles to which the activities will appeal.

Teachers with additional adult support could amend the planner to include a further supported activity or deploy the second adult to support and extend the self-sustaining activities.

## Short term planners

The following planners can stand alone in a Nursery situation and for the early stages of the Reception year. Once teachers need to plan for more structured teaching within the literacy and numeracy strategies, for example, they may need to use the grid for planning the International Primary Curriculum alone. It would still be good practice, however, to try to maintain contextual links between the teaching of numeracy, literacy and the IPC — for example, counting, ordering and sorting bears and writing captions for the garden centre.

This is an example of a weekly planner.

## Weekly Planning Sheet

<b>Unit Title:</b>			
<b>Date:</b>			
	<b>Circle-Time/ Introductory Activity</b>	<b>Follow —On Activities</b>	<b>On — Going Activities. For example: Sand, water, construction, role-play, outdoor, physical play, creative and musical activities.</b>
<b>Mon</b>			
<b>Tue</b>			
<b>Wed</b>			
<b>Thur</b>			
<b>Fri</b>			
<b>Notes</b>			

This is an example of a five-week short term plan for the unit 'Sand and Water'. Planners like these are included with each unit.

# THE EARLY YEARS

## Unit Planning

This Planner demonstrates just one of many routes through this unit. It is based on a five-week period. You should adjust the plan to suit your own school's particular circumstances.

Activities are listed under the week in which they are introduced. The shaded rows indicate where activities can be sustained or developed over a number of weeks.

Week One	Week Two	Week three	Week Four	Week Five
<b>Entry Point</b> Sand / Water Day				
<b>Visit/Recording</b> K/U Cr Lit Grid 1				
<b>Sand and Water</b> K/U Ph Grid 5				
<b>Maths Activities</b> M Grid 10				
	<b>Living Things</b> K/U Cr Grid 2			
	<b>Music Activities</b> Mu Grid 8			
	<b>Sand Water Picture</b> Cr Grid 11			
	<b>Rhymes and Stories</b> Lit Grid 9			
		<b>Labelling</b> Lit Grid 3		
		<b>Rain</b> Lit K/U Grid 4		
		<b>Movement</b> Ph Grid 12		
			<b>Occupations</b> R.P. K/U Lit Grid 6	
			<b>Properties</b> K/U Grid 7	
				<b>Land and Sea</b> K/U Grid 13

**M. Maths, Lit. Literacy, Ph. Physical, Cr. Creative, Mu. Music, K/U Knowledge and Understanding, R.P. Role Play.**

This level of planning is in broad brush strokes only and demonstrates how some activities are planned to be on going throughout the whole unit whilst others will last for a single session. Typically, the on-going activities are such things as sand and water or role play where children's interest and interaction with the learning materials will develop and extend their play.

# THE EARLY YEARS

Teachers will need to select the main focus for each session which may have a follow-on activity which is also teacher directed. Then they will need to mix and match a number of activities remembering if there is only one adult in the class that this will have to be self sustaining i.e. children must be able to work independently on these activities. It is important to remember, however, that the teacher should give status to the learning that takes place in practical areas by ensuring that these activities are sometimes teacher directed.

Blank pro-formas of four and six-week planners are also included with each unit (see following examples). These can be used instead of the five week planner in situations where teachers want the unit to last a longer or shorter time due to their own situation and school calendar.

The final level of planning is daily and weekly where each teacher organises the learning activities within his or her class.

## ANIMALS

### Four Week Planner

<b>Teacher</b>	
<b>Class / Group</b>	
<b>Start date</b>	

<b>Week One</b>	<b>Week Two</b>	<b>Week Three</b>	<b>Week Four</b>
Entry Point			
Animal Masks			

<b>Notes</b>
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# THE EARLY YEARS

## CLOTHES

### Six Week Planner

<b>Teacher</b>	
<b>Class / Group</b>	
<b>Start date</b>	

Week One	Week Two	Week Three	Week Four	Week Five	Week Six
Entry Point Dressing Up Day					

<b>Notes</b>
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## Literacy and Numeracy in the Early Years

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The Early Years Programme of the IPC was never intended to offer a complete literacy and numeracy programme. Even within the UK National Literacy Strategy, teachers do not need to plan for a full-blown literacy hour until the summer term of the last year of the Early Years (when children are turning into 5 year olds).

There are however many opportunities within the strands and therefore within the units for the development of early literacy and numeracy skills. Indeed it is good practice and part of the Early Years IPC philosophy to promote holistic education and to maintain links between all areas of learning.

A simple example of this is selecting a text which complements the contexts of the unit theme and using it as a starting point for more general numeracy and literacy activities e.g. counting and ordering bears or adding up a shopping list.

These early literacy and numeracy activities are included in the learning strands:

### **Early literacy opportunities**

- 2.3 Using language skills in a variety of contexts
- 2.4 Using repetitive sounds and words, aspects of language such as rhythm, rhyme and alliteration, and to enjoy nonsense stories and rhymes
- 2.7 Enjoying and using verbal communication
- 2.8 Listening attentively and responding appropriately to others
- 2.9 Using words, pictures, print, numbers, sounds, shapes, models, photographs and ICT to represent thoughts, experiences and ideas
- 2.10 Exploring and observing the use of print
- 2.11 Stories and literature valued by the cultures in their community
- 2.12 Enjoying and using words and books
- 2.16 Some of the technology and resources used for mathematics, reading and writing
- 2.17 Creating stories and symbols

# THE EARLY YEARS

## **Early numeracy opportunities**

- 2.9 Using words, pictures, print, numbers, sounds, shapes, models, photographs and ICT to represent thoughts, experiences and ideas
- 2.13 Exploring and observing the use of numbers in purposeful activities
- 2.14 Using mathematical symbols and concepts
- 2.15 Enjoying and using numbers

## **Some of the technology and resources used for mathematics, reading and writing**

- 3.10 Setting and solving problems
- 3.11 Looking for patterns, classifying things for a purpose, guessing, using trial and error

Schools will need to decide for themselves at which point they feel the need to supplement these experiences with a more formal programme — for example, when to introduce the systematic teaching of phonics and reading. Until this point is reached the IPC Early Years provides opportunities to develop early literacy and numeracy awareness in a meaningful context.



## Assessment

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The assessment advice within each unit gives suggestions which are very contextual and tend to focus on knowledge acquired. So, for example, the unit 'Going Places' has ideas on how to find out what children have learned about forms of transport.

Teachers will also need to have some way of recording their observations and assessments about how children have responded to the four main areas — Independence and interdependence, Communicating, Exploring and Healthy living.

Most of this learning can be assessed during a normal school day while children are involved in the planned activities and experiences. In other words, it should not be necessary to create separate assessment activities.

Teachers should be able to find out what a child has learned or which skills they have developed by:

- Observation
- Careful questioning
- Listening
- Looking at examples of work — paintings, models and so on

Some of the following formats may be useful. Teachers will need to think about the following variables before they decide on how to record their assessments:

Does the school/nursery have a baseline assessment scheme or Early Years screening currently in place? If so, can that information feed into the Early Years strands of the IPC?

How big is the class? Teachers with large classes may find the individual record sheet too time-consuming and opt for the class list.

If this is the case then perhaps the individual records could be useful to track and monitor individual children — possibly those who join the class mid-way through an academic year or for those children with some kind of special educational need.

Teachers who adopt the following class list formats will need to decide on a code, for example / child engaged, X child mastered this learning.

Assessment and record keeping should be a useful tool for teachers. It should inform your planning by helping you to understand how the children are responding to what they are doing. It should never become an end in itself.

# THE EARLY YEARS

## Strand one: Independence and interdependence

Child's name:			
	Observed	Date	Comment
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

Observations made by:

# THE EARLY YEARS

## Strand two: Communicating

Child's name:			
	Observed	Date	Comment
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Observations made by:

# THE EARLY YEARS

## Strand three: Exploring

Child's name:			
	Observed	Date	Comment
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			

Observations made by:

# THE EARLY YEARS

## Strand four: Healthy living

Child's name:			
	Observed	Date	Comment
1			
2			
3			
4			
5			
6			
7			
8			
9			

Observations made by:

# THE EARLY YEARS

## Strand one: Independence and interdependence

### Class list

1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														

Observations made by:

Suggested code:

/ Child has experience of this learning

X Child has mastered this learning

# THE EARLY YEARS

## Strand two: Communicating

### Class list

1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														

Observations made by:

Suggested code:

/ Child has experience of this learning

X Child has mastered this learning

# THE EARLY YEARS

## Strand three: Exploring

### Class list

1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														

Observations made by:

Suggested code:

/ Child has experience of this learning

X Child has mastered this learning



# THE EARLY YEARS

## Strand four: Healthy living

### Class list

1														
2														
3														
4														
5														
6														
7														
8														
9														

Observations made by:

Suggested code:

/ Child has experience of this learning

X Child has mastered this learning

## Unit coverage

---

Teachers can use the following matrices to see which of the numbered points within each strand are covered within each unit. The number of x signifies the number of times each strand appears in the unit. This may influence the choice of unit if it is felt that an individual child or group of children would benefit from a focus on a particular strand.

The matrix for multiple intelligences shows how often each intelligence is covered in the units.

The matrix for International goals shows how activities that specifically work towards milepost one of the 6-12 programme are covered in each unit.

# THE EARLY YEARS

## Strand one: Independence and interdependence

	Plants	Shopping	Animals	Bears	Patterns	Houses	Sand and Water	Food
1	x	x	x	x		xx		xx
2	xx	xx	xxxxxx	xxx	xxxx	xxx	xxx	xxxx
3	x	xx	x	xx	xx	xxx		
4			x	x	xxx			
5			xx		xx	x		
6				xx	x	x		x
7		x		x	xxxx	x	x	x
8	xx	xxxx	x	x	x	x		x
9	xxxxxxxx	xxxxxxx	xxxx	xxxxxxxxxxx	xxxxxx	xxxxxx	xxxxxxxxxx	xxxxxxxxxxxx
10	x			xx				xx
11	xx	xxx	xxx	xx	xx	xx	xx	xxx
12	xx	x		x	xx	xxx	x	x
13	x	x				x		xx
14	x			xxx		xx	x	xxxxxx
15	x			x	x	x	x	x
16	xxxxxx	xxxxx	xxxxxx	xxx	xxx	xxx	xxxxxx	xxxxxx
17	xxxxx	xxxxx	xxx	xxxxxx	xxxxxx	xx	xxx	xxx
18	xxxx	x			x	x	x	xx
19	xxx		x	x	x		xx	xxxx
20	xx	xxxxx	xx	xx	xx	xxx	xxxxx	xxxx
21	x	x	x	x	x	xxx	xxx	
22		xx	x					x
23	xx		x			x	xx	xx
24	xx			x	x	x	xx	xxx
25	xxxx	xxx		xxxx		xx	xx	x
26				x				
27	xxx	xx	xx	x	x	xxx		xx
28	xx	xxx	xx	x	x	xxx	x	xx

# THE EARLY YEARS

## Strand one: Independence and interdependence (continued)

	Clothes	Family and Friends	Transport	All About Me	Up and Away	Treasure	Let's Pretend	Changes
1	x		xx		x	x		
2	xxxxxx	xxxx		xxxxxxxx	xxxx	x	x	x
3	x		x					
4	x	xx		xx				
5	xx	x		x	xx			
6	x	xxxxxxxx		xx				x
7	xx	xxxx	x	xx	xxx			
8	xx	xxxxx	x	xxx	xxx	x	x	x
9	xxxxx	xxxxx	xxxxxxxxxx	xxxxxxx	xxxxxxxxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxxxxxxx
10	x		xxx	x				
11	xxx	xxxxxxx	xxxx		xx	xxxx	xxxxx	x
12	xx	x			xxx	xx		
13			xx	x	xxx			
14	xxx	x	xx		x	x	xxx	
15	xx	xxxx	xx	x	x	x	x	x
16	xx	xxxx	xx	x	xxx	xxxxx	xxxxx	xxx
17	xx	xx	xxx		xxx		xxxx	x
18	x	xx	xx		x			x
19	xxx	xxx	xxx	xx	xxx	xxx	x	
20	xxxxxxx	xxxxxx	xxxxxxx	xx			x	xx
21		x	xx	x	x			x
22		xx	x	xx	xxx			
23		x						
24	xx	xxx	xx	xxxxx			x	x
25	xxx	xxx	xxxx		xx	xxx	xxxxxxxx	xxx
26		xx		xxx		x		x
27		xx		xxx				
28	xxxx	xxxx	xxx	xxx				

# THE EARLY YEARS

## Strand two: Communicating

	Plants	Shopping	Animals	Bears	Patterns	Houses	Sand and Water	Food
1	x	x	xxxx	xx	x	xxx	x	x
2		xx	xxx	xxx		xxx		x
3	xxxxx	xxxxxxx	xxxx	xxxxxxxxx	xx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxxxx
4	x	xx	x	xx	xxx	x	xxx	x
5	xxx	xxxxx	xxxxx	xxxxxxx		xxxxxxxxx	xxxxxxx	xxxxxxxxxxx
6	x		xx		x	xx		
7	xxx	xx	xx	xxx	xx	xxx	xxx	xx
8	xx	xx	xx	xxx	xxx	xxxx	xxxxxxx	xxxxxxxxx
9	xxxxxxxxx	xxx	xxx	xxxxxx	xxxxx	xxxxxxxxx	xxxxxxx	xxxxxx
10	xxxxx	xx	xxxx	xxxxx	xxx	xx	xxxx	xxxxx
11	xx		x	xx	xxxx	x	x	x
12	xx		xxx	xxxx	x	xxx	xxx	xxxxx
13		xxx	x	x	xx	x	x	xxxxx
14	xxx	x		xx	x	x	x	xx
15	xxx	xxx		x	x	x	x	xx
16	xx	x		xx		x	x	xx
17	xx		x	xxxxx	x	xxxx	xx	x
18	x		x	x	x	xx	x	xx
19	xxx		xx	xxx		xxx	xx	xx
20	xxxxx	xx	xxx	xxx	xxxxxx	xxxxx	xxxxx	xxx
21	xxxxx	x	xxxxx	xxxxx	xxx	xxxxx	xxxxx	xxx
22	x	x	x		xxxxx	x	x	x
23	xxx	x	x	x		x	x	xx
24	xx	xx	xx	x	x	xxxx	xx	x
25	xxx	xx	xx	x	xx	xxxx	xx	x
26	x				x			

# THE EARLY YEARS

## Strand two: Communicating (cont'd)

	Clothes	All About Me	Transport	Family and Friends	Up and Away	Treasure	Let's Pretend	Changes
1	xxx	x	xxxxxx	x	xxx	xxxx	xxxxxxx	xxx
2	xx	xx	xxxxxxxx	x	xx	xxx	xxxxxx	xxx
3	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxx	xxxxxxxx
4		x			x	x	xx	xx
5	xxxxxx	xxxxxx	xx	xxxxxx	xx	xxxx	xxx	xxxxxx
6				x	xx		x	x
7	xx	xxxx	xx	xxxxxx	xx	xxxx	xxxx	xxx
8	xxxxxx	xxxxxxx	xx	xxxxxxx	xxxxxxxxxx	xxxx	xxxxxx	xxxxxxx
9	xxx	xxxxxxx	xxxxx	xxxxxx	xxxxxxxxxxx	xxxxx	xxxxxxx	xxxxxxxxxx
10	xx	xx	xx	xxxxxxx	xxxxxxx	xx	xx	xxxxx
11	x		xxx		xx		xxxxx	
12	xxx	x	xxxxxx	xx	xxxx	x	xx	xxxx
13	x	xxxx	xxxxxxx	xxx	x	x	x	x
14	xx	xxx	xxx	xx	x	xx	x	xx
15	x	xxx		x	x	x	x	xxx
16			xxx		xxxxx		x	x
17	x	xx	xxxx	xxx	x	xxx	xxxxxxxxxxx	xxxxx
18	x	xx	xxx				xxx	xx
19	xxxx	xx	xxxxxxx	xx	xxxxxx	x	xxx	xx
20	xx	xxxxx	xxxx	xx	x	xx	xxxxxx	xx
21	xxxxxxx	x	xxxx	x	xxxxxxxxxx	xxxxx	xxxx	
22	x	x				x		
23	xx				x		xxx	
24	x	x	x		x	xx	xxx	
25	xx		xx		x		xxx	x
26								

# THE EARLY YEARS

## Strand three: Exploring

	Plants	Shopping	Animals	Bears	Patterns	Houses	Sand and Water	Food
1	xxxxx	xxxxxxx	xxxxxx	xxxxxxxxx	xxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxxxxxx
2	xxxxx	xxxxx	xxxxxxxxx	xxxxxx	xxx	xxxxx	xxxxxxxxx	xxxxxxxxxxxxx
3	xxxxx	xxxxxxx	xxxxxx	xxxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxxxx
4	xxxxx	xxxx	xxxx	xxxxxxxxxxx	x	xxxxxx	xxx	xxx
5	xxxxxx	xxxx	xxx	xxxxxx	xx	xxxxxxx	xxxxxx	xxxxxxxxxxxxx
6	xxx	x	xx	x	xxx	xx	xxx	xxxx
7	xxxxxxxxx		xxx	xxxx	x	xxxx	xxxxx	xxxxxxxxxx
8	xx	xx	xx	x		x	xx	
9	xxxxxx	x	xxx	xx	xx	xx	xxxxxxxxxx	xxxx
10	x	xxxx	xxxx	xxxx	x	xx	xxxxx	xxxxx
11	xx	xxx	xxxx	xxxx	xxxxxxxxxxx	xxxx	xxxxxx	xxxx
12	xxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxxxxxx
13	xx	xxxxx	xxxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx	xxxxxxxxxxxxx
14		x	xxx	xx	x	xxxx	xx	xx
15	xxxxx	xx	xx	xx	x	xxxxx	xxxxxxx	xxxxxxx
16	xxx	x	xx	xx	xxx	xxx	xxxx	xx
17	xx	xx	xxxx	xxx	x	xxxx	xxxxxxx	xxxxxxx
18	xxxxx	xx		x		xxx	xxxx	xxxxxxxxxxxxx
19	xx	x	xxx	xxx	xxxx	xxxxxxxxx	xxxx	xxxxx
20	xxx		x	xx	x	xxx		x
21	x	x		x	x		x	x
22	xx			x	x	xx	xxxx	x
23	xx	xxx		xxxx	xx	xx	x	x
24	xxxx		xx	x	x	xx	xxxx	x
25	x		x	x	x	xx	xxx	x
26	Xx		X	X		X	Xxx	x

# THE EARLY YEARS

## Strand three: Exploring (continued)

	Clothes	All About Me	Transport	Family And Friends	Up and Away	Treasure	Let's Pretend	Changes
1	xxxxxxx	xxxxxxx	xxxxxx	xxx	xxxxxxxxx	xxxxx	xxxxx	xxxxx
2	xxxxxxx	xxxxxxx	xxxxx	xx	xxxxxx	xxx	xxx	xxxxx
3	xxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxx	xxxxxxxxxxxxxxxxx	xxxxx	xxxxx	xxxxxxxxx
4	xxxxxx	x	xxxxxx	xxxx	xxxx	xxxxxx	xxxxxxxxxxx	x
5	xxxxxxx	xxxx	xxxx	xxxx	xxxxxx	xxx	xxxx	xxx
6	xxxx	xxxxx	xxxxx	x	xxxxxx	xxxxx	xxxxx	xxxxx
7	xxxxxxxxx	xxxxx	xxxx	xxx	xxxxxx	x	xx	xx
8	x	xx	xxx		xxx	xx		x
9	xxxxx	xxxxx	xxxxx	xxxx	xx			xx
10	xx	xxxx	xxx	xxxx	xxx	xxx	xx	xx
11	xxxxxx	xxxxx	xxx	xx	xxxxxx	xxx		xxxxx
12	xxxxxxxxx	xxxxxxxxxxx	xxxxxxx	xxxxxxx	xxxxxxxxxxx	xxxxxx	xx	xxxxxx
13	xxxxx	xxxxx	xxxxxxx	xxxxxxx	xxxxxx	xxxxxx	xx	xxx
14	xxx	xxxxx	xxx	xxxx	xxxxxxx	xx	x	xxx
15	xxxxx	xxx	xxx	x	xxxxxx	xx	x	xx
16	xx	x	xxx	xx	xxxx	x	x	xxx
17	xxxxx	xxxxx	xxxxxx	xxxxxxxxx	xxxxxx	xx	x	xxx
18	xxxxxx		xxxx	xxx	xx	xxx		x
19	x	xxxxxx	xxxxxxx	xxxxxxx	xxxxxxxxxxx	xxxxxx	xxx	xxxxx
20	x		x	xx	x	x	xxxxxxx	
21			x	x		x		x
22			x	x	x			x
23	xx	xxxxx	xxxx	xxxxxxxxx		xxx	xx	x
24				x		xx		xx
25				x				xx
26								x



# THE EARLY YEARS

## Strand four: Healthy living

	Plants	Shopping	Animals	Bears	Patterns	Houses	Sand and Water	Food
1	x			x		xx	xxx	xxxxx
2	xxx	x		x	xx	xxxx	xxxx	xxxxxxx
3	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxxxx	xxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxx
4	xxxxxx	xxxxxxxxxx	xxxxxxx	xxxxxxxxxxxx	xxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxxxxx
5	xx	xxxxxxxx	xxxxxxxx	xxxxxxxxxxxx	xxxxx	xxxxxxxxxx	xxxxxxx	xxxxxxxxxxxxxx
6	xx		x	x	x			x
7						x		xx
8	xx	xx	x	xxxxx	x	xxxxx	xxxx	x
9	x	x	x	xxxx	x	xxxxx	xxxxx	xx

## Strand four: Healthy living (continued)

	Clothes	All About Me	Transport	Family and Friends	Up and Away	Treasure	Let's Pretend	Changes
1	xx	x	xxxx		x	x		xx
2	xxxxxx	xx	xxxxxxxxxx	xxxxx	xxxxx		x	xx
3	xxxxxxxxxxx	xxxxxxx	xxxxxxxxxx	xxxxxxx	xxxxxxxxxxxxxxxx	xxxxxxx	xxxxx	xxxxxxxxxx
4	xxxxxxxxxx	xxxxxxx	xxxxxxxxxx	xxxx	xxxxxxxxxxxxxxxxxx	xxxxx	xxx	xxxxxxxxxxxx
5	xxxxxx	xxxxxxxxxx	xxxxxxxxxx	xxx	xxxxxxxxxxxxxxxx	xx	xx	xxxx
6	xx		xx	x	xxx	x		xxxxx
7		x		xxxxxxx		x		xx
8			xx	xxxxx	xxx	xxx	xxxxxxx	xxxx
9	xxxx		xxxxxx	xx	x			

# THE EARLY YEARS

## Multiple intelligences

	Plants	Shopping	Animals	Bears	Patterns	Houses	Sand and Water
Visual-spatial	xxxx	xxxxx	xxxxx	xxxx	xxxxxxx	xxxxxxxxxxx	xxxxxx
Naturalist	xxxxxxx	xxxxx	xxxxxxxxx	xxxxx	xxx	xxx	xxxx
Logical-mathematical	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxx	xxx
Musical	xx	xxx	xx	x	xx	xxx	x
Kinaesthetic	xxxxxx	xxxxxx	xxxxx	xxxxx	xxxxxx	xxxxxxxxx	xxxxxxxxx
Linguistic	xx	xxxxx	xxx	xxxxxx	xxxxxx	xxxxxxxxx	xxxxxx
Interpersonal	xxx	xxxxxxxxx	xxxxxxxxxxx	xxxxxxxxx	xxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx
Intrapersonal	xx	xxxx	xxxxxxxxx	xxxxxxxxx	xxxxxx	xxxxxx	xxxxxxxxxxx

## Multiple intelligences (continued)

	Food	Clothes	All About me	Transport	Family and Friends	Up and Away
Visual-spatial	xxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxx	xxxxxxx
Naturalist	xxxxxxx	xxxxx	xxxxx	xxxxxx	xx	xxx
Logical-mathematical	xxxxxxx	xxx	xxxxxx	xxxxxx	xxxxxxxxx	xxxxxxx
Musical	xx	x	xx	xx		x
Kinaesthetic	xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	xxxxx	xxxxxxx
Linguistic	xxxxxxxxxxx	xxxxx	xxxxxxx	xxxxxxx	xxxxxxxxx	xxxxx
Interpersonal	xxxxxxxxxxx	xxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxx
Intrapersonal	xxxxxxx	xxxxxx	xxxxxxxxxxx	xxxxxxx	xxxxxxxxx	xxxxxxx

# THE EARLY YEARS

## Multiple intelligences (continued)

	Treasure	Let's Pretend	Changes
Visual-spatial	xxxxx	xxxxxxxxx	xxxxxxxxx
Naturalist	xxx	xxx	xxxxx
Logical-mathematical	x	xxxx	xxxxxxxxx
Musical	x	xxx	xxx
Kinaesthetic	xxxxxxx	xxxxxxxxx	xxxxxxxxsx
Linguistic	xxxxx	xxxxxxx	xxxxxxxxx
Interpersonal	xxxxxxx	xxxxxxxxxxx	xxxxxxxxx
Intrapersonal	xxxx	xxxxxxxxxxx	xxxxxxxxxxx

## International goals — working towards Milepost One

	Shopping	Animals	Bears	Patterns	Houses	Sand and Water	Food
1	x	x	xx	xx	xx	x	xxx
2	x	xx	xx	xx	xx	xx	xx
3	x	xx	x	xxx	xxx	xxx	xxxx
4	xxxxx	xxxxxxxxx	xxxxxx	xxxxxxxxxxx	xxxxxx	xxxxxxxxxxx	xxxxxxxxxxx
5	xxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxxxxxx

## International goals — working towards Milepost One (continued)

	Clothes	All about me	Transport	Family and friends	Up and Away	Treasure	Let's Pretend	Changes
1	xxx	xx	x		x			x
2	xx	xx	xx		x			
3	xxxx	xxxx			x			xx
4	xxxxxxx	xxxxxxxxxxx	xxxxxxx	xxxxxxxxxxx	xxxxxxx	xxxxxxxxx	xxxxx	x
5	xxxxxxxxxxx	xxxxxxxxxxx	xxxxxxx	xxxxxxxxxxx	xxxxxxxxx		xxxxxxx	xxxxxxx

## Producing your own IPC Early Years Unit

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### Introduction

One of the advantages of the International Primary Curriculum is in the way the units of work save teachers so much preparation time. This means that it is more possible to think about children's learning — the real purpose of teaching — than about curriculum writing.

But the IPC is also flexible. This means that, within reason, teachers can amend the core units to fit even more closely with the particular context in which they are working. (No curriculum, however good, can get it absolutely right for schools all around the world. In the same way that we customise our cars or the houses we live in, so the curriculum has to be customised as well.)

It also means that you may want to write a unit specific to your school. It is quite likely that the particular locality, culture or environment in which you teach and your children learn has some very specific and exciting potential that can be developed into a particular unit of your own.

When you do this, the unit must fulfil certain requirements for it to be an International Primary Curriculum Early Years unit. This section provides guidance on how you might go about writing such a unit. If and when you choose to do so, we hope that you will get in touch with us for more advice. We'll also be publishing further advice on the web-site in due course.

Having written your unit, we ask you to submit it for validation that it meets the principles of the IPC. When we send the unit back to you, it remains the property of your school. It's fine if you want to share it with other schools, although the chances of this happening are limited simply because the unit is specific to your context. Whatever you do, rest assured that your unit will not become a part of the package of units offered by the IPC to schools all over the world.

### Writing a unit

The International Primary Curriculum Early Years is a well established curriculum for teachers of children aged four and five in international schools around the world. It is based on a set of principles that are outlined in an accompanying paper. Please read this accompanying paper carefully, as the principles should underpin everything you and we do.

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At the heart of the curriculum are the Learning Strands and the units of work.

The Learning Strands set out the standards, benchmarks. There are four sets of Learning strands referring to: a) Independence and Interdependence b) Communicating c) Exploring d) Healthy Living.

The Units of Work provide the activities through which the Learning strands are converted into exciting learning opportunities for children.

## **Writing guidelines**

Aim to write a unit that helps children learn what they should be learning as effectively and efficiently as possible. It is better to have good units which do the job than poor units which are too short or too long.

## **Choosing your unit of work**

Your school-specific unit of work is likely to have been chosen because of the particular circumstances in which your school is situated. Therefore, you are likely to be aware of the theme of the unit of work before you are aware of the learning strands it might contain.

## **Identifying the learning strands**

Always remember that the IPC Early Years is based on learning strands before it is based on activities. The IPC Early Years is a learning curriculum before it is an activity curriculum. Activities are the vehicles on which the learning takes place.

Turn first, therefore, to the appropriate IPC Learning Strands. Work through each area of learning identifying the specific learning goals you think your subject will help children learn. Even though you might amend these as you discover that you cannot devise activities to teach certain learning goals in an authentic way, everything you do in writing an IPC unit needs to bear these in mind.

## **Writing the entry point**

Each unit of work begins with an 'entry point'. This is an event, happening or activity that sets an exciting context for the children. It takes place before any of the 'formal' work. Depending on the overall length of the unit the entry point may last from one day to one week. The entry point is an important part of an IPC Early Years unit. Make sure you provide sufficient information to teachers to make sure that they are clear about how the entry point will work and what will happen in it.

## **Writing the unit**

This section should provide the information which teachers need to organise and resource

# THE EARLY YEARS

the activities for the children. In the Early Years Programme this learning is presented in the form of planning grids. Make sure you include as much key information in each column of the grids as you can. The following guidance should support you in writing the grids.

## **Column One                      Planning Advice**

This is a very practical aid to teachers' medium and short term planning. Try to include advice which helps teachers plan the 'where' by identifying the physical area of the classroom and the 'when', so that areas of learning that are dependent are sequential.

## **Column Two                      The Activities**

This column contains the ideas for activities. Try to include a variety of starting points and to remember that the principles of the IPC Early Years include the need for children to have a curriculum which embodies a holistic approach and is based on play. Include as many active experiences for the children to build on their previous experiences and encourage them to interact with others and with their physical environment.

Remember that these activities should neither be seen as an exhaustive nor a compulsory list.

## **Column Three                      Task Number**

The following code is in this section with a numerical ordering within each, e.g. M1 = pre mathematics activity

M	Mathematical focus
Lit	Language/Literacy focus
Ph.	Physical development
Cr.	Creative Development
Mu.	Musical Development
K/U.	Knowledge and Understanding of the world
R.P.	Role-play

Remember that these codes are there to support short term planning only and teachers working within the Early Years Programme of the IPC will need to be guided and influenced by the four strands when thinking about medium term planning.

In your particular setting you may find it easier to evolve your own numbering system — this column is here for your benefit — to make the physical task of planning less laborious —it should help you, not confuse you — so make it work in your situation.

# THE EARLY YEARS

## Column Four                      The Strands

This column identifies the main intended coverage of the strands. Each strand is identified, followed by a number which relates to the bullet point within that particular strand.

So, for example

Independence and Interdependence

- 9

refers to “children learn about their ability to acquire new interests and skills”.

It is worth noting here that only the main intended focus can be identified. Early Years teachers will know that sometimes young children can work within a planned activity and develop skills, knowledge and understanding which are far removed from the planned learning.

Teachers may well use this column as a starting point for their planning, if they feel that individual or groups of children within their class need to develop the learning described within one particular strand or bullet point. The matrices identifying the coverage within each unit are designed to support this process.

## Column Five                      Multiple Intelligences

The IPC is based on current research into brain friendly learning

This column identifies which of the following multiple intelligences the children will be using when engaged in the tasks or activities.

- Interpersonal
- Intrapersonal
- Linguistic
- Mathematical/logical
- Visual/spatial
- Bodily/kinaesthetic
- Naturalist

Again teachers may use this information as the starting point for their planning if they feel that a particular child or group of children needs to engage with their learning via one or more of these intelligences.

## Column Six                      International Dimension

The Early Years Programme reflects the commitment of the whole International Primary Curriculum to the development of an international mindset. This column identifies some of the possibilities within the activities and relates them to the international targets for the end of Milepost One.

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## International activities

The Early Years Programme meets a range of children's learning needs.

It provides some opportunities for children to practise Maths and linguistic skills. It is the main teaching vehicle for all other subject areas. It helps develop personal skills. Uniquely, however, it also structures into the curriculum, opportunities for children to begin thinking about and responding to a number of issues that help develop international mindedness.

A number of the activities you write for each subject will have international mindedness built into them. However, when you write the international activities these should be more specific and relate to the learning goals of milepost one in the main IPC programme.

## Style

The IPC sets out to be practical, accessible and jargon-free. It is meant to be a help to teachers on a day-to-day basis. On behalf of your colleagues, please write as simply as possible. This means

- Relatively short sentences
- Informal use of 'you' and 'us', 'your friends'
- An explanation of any necessary technical language

## The checklist

Here is a set of guidelines that every writer of an IPC unit has followed. Use them as a check list as you work through preparing your own unit.

Does the unit contain the following features and in this order?

- Title page, including copyright notice
- Introduction
- Basic information
- The complete learning strands
- Entry point
- Explaining the theme
- The big picture
- Assessment advice
- Resource lists
- Draft letter to parents



# THE EARLY YEARS

- Planning grids

Does the basic information provide teachers with information about:

- The strands covered by the unit?
- Approximate length of time of the unit?
- Links with 'international mindedness'?

Does the entry point:

- Contain activities likely to give children fun and engage their interest?
- Show obvious links to the unit theme?

Does 'Explaining the Theme':

- Set out the key things children will be learning in each subject, in language appropriate to children?
- List the different kinds of work children will be doing?

Does the big picture:

- Provide teachers with the basic background information and knowledge to the theme they need?

Does each unit

- Provide a range of activities to support the planned learning within the strands?
- Make explicit links with learning strands?
- Provide opportunities for a balanced and active curriculum based on practical activities?
- Identify which multiple intelligence(s) are being developed within each activity?
- Include individual, pair and group work?

Does the assessment advice

- Provide teachers with ways to assess children's development of their skills and understanding in particular?
- Provide suggestions for practical activities?

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- Clarify what is being assessed?

Does the resources page

- Clearly list the resources needed for each subject section of the unit?

Does the parent newsletter

- Follow the agreed format?
- Is there an absence of jargon and convoluted language throughout the unit?

## **Finally, the template**

There is a template on which you can write your own unit. You will find a 'live' version of it in the members' section of the IPC website:

**[www.internationalprimarycurriculum.com](http://www.internationalprimarycurriculum.com).**

The following can also be used.

## Producing Your Own IPC Early Years Unit Template

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**Title**

**Theme**

**A unit for children aged**

### **CONTENTS**

- Introduction
- Basic Information
- Learning Strands
- The Entry Point
- Explaining the Theme
- The Big Picture
- International Aspect
- Assessment
- Resources
- Parental involvement
- Planning grid

# THE EARLY YEARS

## INTRODUCTION

### **This is a unit of the International Primary Curriculum**

The IPC has been developed to provide support to teachers so that four main aims can be achieved. They are:

- To help children learn the subject knowledge, skills and understandings they need to become aware of the world around them
- To help children develop the personal skills they need to take an active part in the world throughout their lives
- To help children develop an international mindset alongside their awareness of their own nationality
- To do each of these in ways which take into account up-to-date research into how children learn and how they can be encouraged to be life-long learners

### **The IPC has a simple but comprehensive structure**

Everything is based on clearly-defined learning goals or standards which lay out the subject, personal and international knowledge, skills and understandings children need at different stages of their primary or elementary school life.

Units of work provide practical activities which teachers can use in the classroom plus a wealth of other supportive information. Each unit is structured to make sure that children's learning experiences are as stimulating as possible.

In this way, the IPC provides two of the three main stages of planning. It provides both the curriculum map which sets out what children should learn and what they will do at different stages of their school life. It also provides the detailed curriculum planning for teachers to take into the classroom. All you have to do as a teacher is to make those amendments and updates necessary to teach the IPC to your particular class in your particular location.

We believe that learning is the most important event in any school and we want children to enjoy the learning that takes place through the IPC. But we also want you to enjoy teaching it at the same time. If you have any comments which will help us to improve children's learning, or their and your enjoyment, don't hesitate to get in touch.

## BASIC INFORMATION

## LEARNING STRANDS

## THE ENTRY POINT

# THE EARLY YEARS

## EXPLAINING THE THEME

## THE BIG PICTURE

## INTERNATIONAL ASPECT

## ASSESSMENT

## RESOURCES

## PARENTAL INVOLVEMENT

## THE UNIT GRID

Planning Advice	Tasks/ Experiences	Task Number	Strand	Multiple Intelligences	International Dimension
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## Brain-Friendly Learning

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### Introduction

The International Primary Curriculum is one of the first whole-school curricula to be based on recent evidence about the brain and the impact this evidence is having on classroom learning. This section provides the background to that work.

Over the past few years we have become clearer than ever before about the core purpose of schools. It is to help children learn as effectively as possible. (And by learn we mean social, emotional and physical learning in addition to intellectual learning.)

Whatever you do in your school should contribute in some way towards that end. All that planning, all that teaching, all those meetings, all that writing ... if, like us, you have ever wondered why you do it all, the answer is simple — to help children learn more effectively. (And in trying to help yourself and your colleagues do less, this core purpose stimulates a pretty powerful question to focus you on your priorities.)

But teaching effectively to improve children's learning is about more than conventional planning and teaching.

Just consider this statement for a moment.

*"More than 85 per cent of what we know about how the brain works has been learnt in the past fifteen years."*

So, for many of us the situation is a little bizarre. We are dedicated to helping our children learn, working long hours at school and at home, planning our work in detail — all without the key information about what is going on in the brains of children that helps or hinders the learning process.

This section cannot cover everything that's been learnt in those fifteen years. So it has been written with three purposes in mind:

- To provide you with a beginners' guide to some of the most important information coming our way.
- To suggest some practical classroom implications that follow from what has been learnt.
- Hopefully, to stimulate you to go further in your own reading and understanding of this fascinating area

Like all developing areas of study, brain-friendly learning is not without controversy. Researchers can disagree with each other. Practical applications are sometimes suggested on the basis of limited research evidence and even less evidence of real classrooms. Some 'discoveries' contradict each other.

# THE EARLY YEARS

So this section concentrates only on those aspects of brain-friendly learning that we feel can be supported by both a respectable research base and evidence of successful use in classrooms. That's why we have chosen to focus on information on how the brain works, Howard Gardner's work on multiple intelligences, the three key learning styles used by children in the classroom and the importance of 'flow' and emotional intelligence, and to conclude by looking at the importance of 'slow thinking'. We hope you find it as interesting and useful as we do.

(If after reading this you are interested in finding out more, there's a booklist at the end that includes all the books mentioned in the text, and more.)

## **The big picture**

On these pages we outline the major practical implications of brain research for teachers.

### **Good health is important to an effective brain**

We have always known that lack of sleep makes the brain inefficient. Recent research has made it clear that diet and exercise also have a great part to play in enabling the brain to work effectively. Regular intakes of water stop the brain becoming dehydrated. High levels of oxygen are important to brain functioning. The right foods provide the brain with the nutrients it needs.

### **Learning is about making connections**

In action, the brain literally makes connections inside our heads. So learning takes place best when the brain makes connections between new experiences and older experiences. The old idea of linking current learning to previous learning has been shown by brain research to be one of the most sensible ways of teaching.

### **Relaxed alertness, not stress, is the best state for learning**

The best state for learning is 'relaxed alertness'. Children who are stressed can't learn. It's as simple as that.

The part of the brain we use to think with is the neo-cortex. It works slower than the limbic brain, which is the part which controls emotions and feelings. What happens when we get stressed is that the limbic part of the brain takes over, often resulting in emotional flooding as we try to counter the stress brought on by a perceived aggressive situation.

### **Children need to see the big picture**

It's easier to do a jigsaw when you have first looked at the 'big picture' than it is when you look at a piece at a time.

# THE EARLY YEARS

Above, we highlighted the importance of helping children make connections with their previous learning. But making connections is even more important than that. Learning works best when children can be helped to link all the different aspects of their work. We need to help children to see the big picture just as these introductory pages are doing.

## **Each child has a portfolio of intelligences**

The old view on intelligence as a single general factor has been challenged in recent years by the idea of multiple intelligences, developed by Howard Gardner. Using brain research Gardner has identified eight — and possibly nine — intelligences which are different but equal in status. The idea of multiple intelligences allows us to see children differently and more positively. It also allows us to help children access work that they might otherwise find ‘difficult’ through their stronger intelligences.

## **Work needs to address children’s different learning styles.**

Brain research tells us that children and adults access their learning in three main ways — auditorily, visually and kinaesthetically. Although most children can learn using all of the styles, about one-fifth of all children have a very strong preference for one style only. So if we organise our teaching and children’s learning through one style only, we reduce the opportunity for many children to learn.

## **Time needs to be created for complex thinking to take place**

‘*Slow thinking*’ is the term Guy Claxton has used to describe the kind of thinking which needs to take place in its own time and not be rushed — reflective thinking. Claxton has used brain research to show how the mind can only solve complex issues by sifting and sorting the information it has been given over a period of time.



## Brain-Friendly Learning

### About the Brain

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#### Some basic facts

The human brain is about the size of a grapefruit and weighs about three pounds. (A gorilla's brain weighs about one pound and a dolphin's brain about four pounds. It's not the size or weight of our brains that makes us more intelligent than other creatures.)

A human brain is actually a mass of folded tissue. Unfolded, it is about the size of a daily newspaper. It is so soft you can cut it with a butter knife.

Seventy-eight per cent of the human brain is made up of water. Ten per cent is fat and about eight per cent protein. Although your brain weighs less than two per cent of your body weight it actually uses twenty per cent of your energy and twenty per cent of your oxygen. Your brain accesses about eight gallons of blood per hour, from which it obtains oxygen, glucose, protein and a number of trace elements.

#### Why does this matter?

If our brains are to work then our bodies need to work to support them. (If you have ever wondered why a large lunch makes you feel sluggish, it's because so much of your energy is being diverted towards the digestive system that your brain is unable to receive all that it needs.)

Over the past few years, there has been considerable research into the effect of diet on brain functioning. Brains need water — without it dehydration sets in rapidly. Some foods are better for the brain than others. Generally speaking, school food is good for muscle and bone but not always good for the brain.

What we eat for breakfast and how much water we drink affects brain functioning. Breakfast rekindles dwindling glucose stores, which are the brain's sole source of food. Complex carbohydrates such as bananas, cereals, and low-fat milk are all useful breakfast brain food. Drinking water is also very important. Five or six glasses of water a day help the brain — and the rest of our body — to avoid the effects of dehydration.

Other important brain-friendly foods include antioxidant-loaded foods such as peppers, orange juice, carrots, sweet potatoes and apricots. Iron and zinc have been found to work closely with nerve chemicals which regulate mental processes. Zinc-rich foods include wheat germ, almonds, dark green leafy vegetables and cooked beans.

It's obviously important to get enough oxygen to our brains. (That's one of the reasons why we often feel clear headed after exercise. We have dramatically increased the oxygen supply to our brain.)

# THE EARLY YEARS

## What can you do in school?

It's true that you have limited control over the diets of the children in your school. But there are some things you can do. You might want to think about the following.

- Make sure that children learn about brain-friendly foods during health and PSE lessons
- Let parents know about the link between diet and brain activity through newsletters, leaflets, open evenings and parents' meetings. The link between the two often promotes a more positive response than simply stressing the importance of diet as a means of general health or weight control
- Make sure children have the opportunity to do deep-breathing exercises before important thinking sessions. Try to use the post-PE sessions — when hopefully brains will have been oxygenated — to provide activities that challenge children's thinking

## The left and right brains

For some time now we have known about the way in which the different sides of the brain seem to control different aspects of our behaviour. The left brain has been described as controlling the more logical aspects of our thinking while the right brain has been identified as controlling the more emotional functions.

However, this view represents a dangerous oversimplification which results in some people being labelled as 'left-brained' or 'right-brained' as though this explains everything about their strengths and weaknesses. Recent research into the two sides of the brain has challenged this thinking.

What we do now understand is that though the two sides of the brain do control different functions they also function by working together. The right brain provides us with a 'fuzzy' version of the whole event whilst the left brain fills in the details. If you are short-sighted, you'll find this easier to understand.

Without your glasses, you 'see' everything but without much detail. The detail is supplied when you put your glasses back on. This is very much how the right and left brain works.

Situated between the two sides of the brain is a complex network of some 300 million neurons called the corpus callosum. This junction box continually shuttles information back and forwards between both sides of the brain. It's the ability of both sides of the brain to work together which maximises our intelligence.

## Our three brains

Our brain is actually three brains in one.

Our **reptilian** brain is the one we share with all animals. It was the first part of our brain to develop, long, long ago. Our reptilian brain controls all of those parts of our lives over which we think we have little control. When you jump at a sudden sharp sound behind you,

# THE EARLY YEARS

it's your reptilian brain that is doing the work for you.

Our **limbic** brain sits wrapped around our reptilian brain like a collar. It's the part of the brain that controls sleep, emotions, sexuality, hormones and the regulation of body temperatures and so on. When you find yourself getting furious with a driver in front of you — or when a child suddenly loses his or her temper in the playground — it's the limbic brain that is at work.

The third part of the brain is the **neo-cortex**. This is the part of the brain that distinguishes us from many other creatures. It's the part that deals with thinking, problem solving, patterns, models and metaphors. It's in the neo-cortex that we find the left and right brains working together.

Emotions have a profound effect on our ability to learn. The limbic brain has an important part to play in the effectiveness or otherwise of the learning that takes place in the neo-cortex. For that reason, there is a separate section of this supplement devoted to emotional learning.

## Brain-waves

Research has shown that your brain operates on four main frequencies. These frequencies change depending on the kinds of activities your brain is engaged in.

When you are wide awake, talking, or working out a problem your brain is operating at about 13 to 25 cycles per second. This is often called the beta level. What's interesting is that although this is the state in which you feel most alert, it may not be the best state to stimulate your long-term memory. Many researchers now believe that a brainwave activity of 8 to 12 cycles per second — the **alpha** level — is the most appropriate for stimulating memory. This is the state when you are more relaxed and less obviously active; when your imagination is at work rather than your more formal thinking processes. We shall be looking at the importance of this later when we introduce the idea of 'slow thinking'.

When you are in that halfway zone between awake and falling asleep — around 4 to 7 cycles per second — then you are at the **theta** level. This level is seen by brain researchers as the second level where increased memory and heightened concentration can be generated.

The final level is the **delta** level between 0.5 and 2 cycles per second. This is when you are in deep sleep and your body temperatures and blood pressure drop.

## What does this mean in practice?

Wherever possible, we should try to make sure that we stimulate the most appropriate brain-waves for the kind of thing we are asking children to do. Beta levels of brain activity are excellent for getting us through the day, but not so good for developing memory and concentration.

# THE EARLY YEARS

It is possible to influence our brain-wave pattern. Sitting quietly, meditation and deep breathing all help to increase alpha and theta waves.

Many researchers now claim that certain types of music can influence brain-wave activity. This is because 60—70 beats to the minute is equal to the alpha wave cycle. So playing the right type of music can stimulate your children's brains into working more effectively

- making connections, making meaning.

## Brain-Friendly Learning

### Making connections, making meaning

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#### Neurons, axons, dendrites and synapses

The neuron is the basic cell of your brain. You have an amazing number of them, about 100 billion — and you have had most of them since birth. The good news is that you are unlikely ever to run out of neurons. Unlike your computer, your brain is never likely to be full. In fact, it has been estimated that we only use about 1 per cent of our brain's potential capacity in our lifetime.

Extending from each neuron is the axon, a collection of long fibres which carry electrical impulses to other neurons. The axon can be up to one metre in length. When axons are working at their most efficient they are coated in a fatty white insulation called myelin. This coating of myelin increases the processing speed of the axon. (It's also one of the reasons diet is important. Myelin coatings are built up more effectively with a good diet than a poor one.)

At the end of each axon is the dendrite. The dendrite receives the information for the neuron and each neuron has many dendrites.

The synapse is the junction or gap at which neurons interact with each other. It's where the axon of one neuron interacts with the dendrite of another. As your brain's electrical activity intensifies it triggers a chemical reaction which 'jumps' across the synapse. (This is another reason why diet is important. Your brain needs to generate about 25 watts of electricity to activate this chemical reaction. That electricity is produced by a combination of the right food plus oxygen.)

What matters more than the number of neurons or the number of synapses is the number of connections your brain makes between neurons and across synapses. It may not be an exaggeration to say that the development of intelligence can be defined as the increasing number of connections your brain makes.

As you learn, what your brain is looking for are connections between your current and previous learning. As you sit reading this and possibly taking in new information, imagine your dendrites seeking out other dendrites with which connections can be made. You will make most sense of this supplement if you are able to link it to other relevant information and ideas you have previously learnt. If these ideas are new to you, your brain is laying the learning track for the first time. You will learn more effectively as you re-visit these ideas in different ways which enable your brain to connect the different experiences you have had.

Learning takes place not when you have remembered a single fact or skill, but when you are able to connect that fact or skill to something you have previously learnt.

# THE EARLY YEARS

## What does this mean in practice?

Information we now have about the brain confirms the intuitively held view that we need to link children's learning to aspects of their past learning or their own lives in order to help them make sense of it.

This is why analogies work well. When we say 'It's like when ...' the appropriateness of the analogy we use will help children understand their new learning much more effectively. Their brains will literally make a connection.

Second, it supports the idea of making sure that we give children the 'big picture' first before focussing on the fine detail. The 'big picture' means giving children an overview of what is going to happen. The best way to help children complete a large jigsaw is to make sure that they see a picture of the finished jigsaw first. Then they are able to relate each small piece that they pick up to the whole. We literally let them see the 'big picture'. In the classroom, though, we often ask them to work steadily through a textbook section by section, without having given them a clue about how each section fits together. Or we deliver new information to them in a class or group session without first giving them a big picture into which they can place the new information they are receiving.

Third, we can help children see the big picture by changing the way they write and note-take. Mind maps enable children to make the connections as they write their notes or record information. You can find out more about the techniques of mind mapping in Tony Buzan's BBC publication *The Mind Map Book* (2000).

## Making memory

Memory is clearly vital to effective learning. Precisely how we remember is still unclear. We know that different parts of the brain are involved. Amazingly, when you watch a film the detail of what happened is stored in one part of the brain while the feelings you had about the film are stored in another.

What we do know is that the hippocampus — a tiny part of the brain which sits across your right and left brain — has an important function in helping memory to happen. It's almost like a junction box. Without it we could still learn, but we wouldn't be able to remember. (And just to push the diet and exercise point one more time, the hippocampus is one of the first areas of the brain to be affected by oxygen deficiency.)

Current thought suggests that you have five different types of memory.

Your working memory, situated at the front of the brain, works for only seconds at a time. It's how you remember your previous sentence in a conversation so that the next one makes sense. It is also the memory that begins to diminish after the age of about 40!

You implicit memory remembers skills that are locked into your brain. It's why once you have learnt to ride a bike you never forget. You are rarely aware of implicit memory.

Your remote memory holds the accumulation of facts you have collected throughout your life. Quiz champions have a highly developed remote memory. It's distributed throughout the brain with no one centre. Remote memory too, seems to deteriorate with age,

# THE EARLY YEARS

although it possible that the brain simply takes longer to sort through the increasing amount of information it has collected.

Episodic memory, located in the hippocampus, is the memory of personal events, of the things which have real meaning for you. This is an important source of memory. When we receive information or experiences that are emotionally satisfying to us, it is likely that we will remember them more effectively.

Semantic memory is the memory for words and symbols. It's what enables us easily to recognise logos of major companies or words associated with our youth that we no longer use.

## **How does memory happen?**

In the first place, memory is a function of how strongly the information is registered in the first place. Information presented in a dull or relatively meaningless way is unlikely to be remembered as well as information presented more in a more exciting way. Memory works best when learners can establish a personal and emotional connection between themselves and what they are learning.

Memory also seems to take place during sleep or deep relaxation — the theta brain wave state described earlier. During sleep, the brain seems to process all of the sensations with which it has been bombarded during the day, making sense of it before you wake up again ready for another day of sensory input.

What doesn't work is 'sleep learning'. There is very little evidence that the subconscious mind takes in information more effectively than the conscious mind — which is a pity because if it did, all we would have to do would be to play instructional tapes to children while they were asleep and save ourselves a lot of time and effort.

## **What does this mean in practice?**

First, it means we need to present the key information and skills we want children to learn in as dynamic a way as possible. They have to be able to distinguish them from the normal run-of-the-mill classroom activities, so that they can have an impact on their thinking processes.

Second, we need to use as many different styles of learning as possible to allow individuals to access the information in a way most appropriate to them. (Information about learning styles is coming up in the next section.)

Third, we need to make the information personal in some way to the children so that they emotionally respond to it. As we suggested earlier, this may be through enabling them to make connections between their new learning and their own life experiences.

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Fourth, we need to make sure that we don't provide children with information overload. Too much information entering the brain can't be processed at the synaptic level and doesn't even get to the point at which it can be sifted and re-organised during sleep. That's why it is very important to be clear about the key learning outcomes you want your children to achieve.

Fifth, once again we need to help children and parents become aware that the quality of diet, exercise and sleep or resting periods actually helps memory to function more effectively.



## Brain-Friendly Learning

### Emotions and Self-Esteem

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#### Flow

In his book *Flow: the Psychology of Optimal Experience* (HarperCollins 1991), the psychologist Mihaly Csikszentmihalyi identifies those who get most out of what they do, who achieve the best they can and who obtain the greatest satisfaction from their work. He also identifies what it is that those people share in common. In essence, the answer, according to Csikszentmihalyi, is the idea of 'flow'.

We have all experienced flow at some time or another. We are in a state of flow when three things happen simultaneously. Time passes quickly — 'I didn't realise it was eleven o'clock already'; we have achieved something significant in the time available to us; we have enjoyed the experience.

Flow is when learning takes place most effectively. Csikszentmihalyi says that the condition which promotes flow can be best described as 'relaxed alertness'. This is an important phrase because it reminds us that the combination of both is important. Creating flow isn't a matter of being so laid back and happy that nothing seems to matter. But neither is a matter of being so 'alert' that we are on a knife-edge, always about to fall off.

#### Stress

Just as most of us have experienced a state of flow at some time or another, so we have experienced the crippling effect of stress on our ability to learn.

In his book *Emotional Intelligence*, Daniel Goleman shows clearly why stress is such an important inhibitor to learning. To realise why, we need to revisit the limbic brain.

The limbic brain, you will remember, is the part of the brain that controls our 'fight or flight' response. As we developed millions of years ago, it was the part of the brain that was constantly on the lookout for danger, which promoted the quick response.

This response mechanism is situated in a part of the limbic brain called the amyglada. What is significant about the limbic brain is that it works faster than the neo-cortex, the part of our brain which provides us with our considered, more analytical responses. When stress occurs, the amyglada tries to bypass the neo-cortex, causing what Goleman calls emotional 'flooding' or 'hijacking'.

We can see this most easily when a child or an adult becomes angry, seemingly unreasonably so to almost everyone else. The child is emotionally flooded by the situation but the onlookers, uninvolved emotionally, are able to use the analytical skills provided by

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the neo-cortex. There's no emotional hi-jacking for them.

Crucially to the classroom, learning stops when stress sets in. The brain is simply unable to process learning until the flooding recedes, either naturally over time or because the child has developed strategies that enable her to deal with it. 'Emotionally intelligent' is the phrase Goleman uses to describe those children and adults who can apply these strategies, respond positively to the stress of emotional hijacking and get back on track as soon as possible.

## Self-esteem

Self-esteem is our ability to be at ease with our strengths and weaknesses. Our ability to become emotionally intelligent is connected with the levels of our self-esteem.

Low levels of self-esteem affect our willingness to 'have a go'. They mean that we are unlikely to risk developing positive emotional commitment to ideas or activities in case we are rebuffed. They affect the way we respond to helpful, but necessarily critical, analysis of what we do. In short, low levels of self-esteem produce stress and stress produces emotional hijacking.

## What does this mean for the classroom?

Crucially, it means that we have to become focused on the ways in which we promote flow and 'relaxed alertness' and inhibit emotional hijacking. We need to understand that all of the lesson planning in the world, all of the most carefully prepared schemes of work and all of the clearest policies are of little value if we can't begin to create the conditions under which children can develop a state of relaxed alertness as they do their work.

It's true that we are not in full control here. Children come to us from home and family contexts which for one reason or another may already be creating conditions of stress and of low self-esteem. But equally, we know that some teachers — either consciously or intuitively — are able to create the conditions within which children can flourish. So teachers are able to do something very powerful.

## Help children respond in an emotionally positive way to learning

We saw in the previous section how the brain learns by making emotional connections when new learning takes place. We once worked with a teacher who taught her six-year-old children about levers, pulleys and forces but did so within a theme she called 'Fairgrounds'. At the same time as other children in the school worked mechanically through some simple investigations on balance, her children worked out how to recreate the funfair ride they had been to on a class visit. Same investigations, but a much more emotionally rewarding context. Whose children learnt more effectively, do you think?

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## **Develop self-esteem as a crucial part of your classroom work**

Bettie Youngs identifies six ingredients of positive of self-esteem. They are:

- physical safety — freedom from physical harm
- emotional security — the absence of intimidation and fears
- identity — the development of self-knowledge
- affiliation — a sense of belonging
- competence — the sense of being capable
- mission — the feeling that one's life has meaning and direction

It is important to ask whether our classrooms and schools are actively promoting those attributes. Start looking for and feeding back positive things about your children's families, their school and outside accomplishments, their possessions, their ideas and their willingness to try even if they fail.

## **Teach emotional intelligence**

Many schools and teachers have already begun to teach emotional intelligence, often under the banner of behavioural management programmes. The introduction of 'circle time' is just one example of a mechanism through which children can be helped to become more emotionally intelligent. It would be doing a disservice to children, however, if the idea of emotional intelligence became too closely linked with behaviour. We need to see emotional intelligence linked explicitly to effective learning.

Developing self-esteem helps children to become emotionally more intelligent but we can do much more. Daniel Goleman identifies seven attributes of the emotionally intelligent child:

- Confidence — which means we need to help children succeed
- Curiosity — which means we need to stimulate children rather than process them, and to value their curiosity about areas not directly linked to school work
- Intentionality — which means we must encourage children to have goals (an example is a seven-year-old girl who wanted to be an airline pilot — her family, in a good-humoured way, accepted this with seriousness rather than a put-down); developing intentionality also supports the idea of target-setting with children
- Self-control — which means helping children find strategies to think using the neo-cortex in order to avoid emotional flooding
- Relatedness — which means helping children understand what happens to them

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- Communication — which means teaching children strategies to talk about their ideas and feelings as well as information and facts
- Cooperation — which means helping children understand the balance between themselves and others, the idea of interdependence as well as independence

## **Work with parents to develop understanding**

Use opportunities to discuss with all parents the effect of emotion and self-esteem on effective learning. The good news here is that although parents may not be explicitly aware of the link, so many adults have experienced these effects that we can help parents make their own emotional connections to this learning by talking about adult experiences as well as those of children. In this way, learning for parents becomes infinitely more powerful and more likely to impact on their relationships with their children.

## Brain-Friendly Learning

### Intelligence — Single, Multiple, Testable?

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Ultimately, whether we learn or not depends on our intelligence. But what is this quality we call 'intelligence'? Recent brain research has broadened the evidence base around which discussion about intelligence can take place. This section looks at the conclusions reached as a result of that evidence. We look at two different definitions of intelligence and the implications they have for testing.

#### A single intelligence

One definition of intelligence is that it is a general characteristic defined as 'G'. In this view 'G' is seen as the top of the pyramid. Below this apex comes a whole range of other aptitudes such as verbal ability, mathematical reasoning and spatial reasoning. Below this level are the more narrow attributes which might be needed to succeed in a particular profession, and so on.

'G' is not specifically related to any of the attributes below it in the hierarchy. It permeates all of them. It is for this reason that different kinds of intelligence test are seen as useful. Whatever the particular focus of the test it is also testing 'G', since 'G' is always present whatever actually appears to be being tested.

The proponents of 'G' argue that although environmental influences can have an effect on the development of intelligence, 'G' is largely given. For example, they point to evidence which suggests that the 'intelligence' of separated twins is more likely to resemble that of their biological parents than that of their adoptive ones. In this view, intelligence is seen as the ability to deal with cognitive complexity. In other words, the more intelligent you are, the greater complexity of ideas you will be able to handle.

Moreover, it is argued that 'G' is a useful predictor of how people will perform and what will happen to them as adults. This is not to suggest that personality and drive do not have an influence on later success. But it is to suggest, as Linda Gottfredson has done in a Scientific American Special Issue (1989), that 'while high IQ individuals may lack the resolve, character or good fortune ... socio-economic success is theirs to lose'.

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## Multiple intelligences

Howard Gardner takes a radically different view of intelligence. His work was prompted by a number of questions such as the following.

Aren't there people who are quite clearly very good at maths but not very good at language skills? If there is a general 'G', how can this be?

What about the evidence from brain-damage patients who retain the ability to do some things extraordinarily well at the same time as losing the ability to do other things?

As a result of these and other questions about the functioning of the brain, Gardner developed his very different theory of multiple intelligences.

Gardner says that intelligence is the 'psychological potential to solve problems or fashion products that are valued in at least one cultural context.' (If you are shipwrecked and rescued by a South Sea Islander who guides you to a land with his or her intimate understanding of wave patterns, bird behaviour and winds, then which of you is the most intelligent in that context?)

Gardner has described eight separate intelligences.

- Linguistic intelligence — the mastery of words and the desire to explore them. Writers and poets such as Anne Tyler or Michael Rosen would be described as linguistically intelligent
- Logical-mathematical intelligence — finding out the relationships and principles in a series of objects and transactions. Einstein — or Ruth Lawrence — would fit the bill here
- Musical intelligence — a competence in performing and composing but also in listening and discerning. Beethoven, John Coltrane, and Bono are good examples
- Spatial intelligence — an ability to perceive the world and to create, transform and modify representations of it even without physical stimuli. Gary Kasparov, Norman Foster and Michelangelo would be good examples
- Bodily-kinaesthetic intelligence — the ability to skilfully control body motions and handle objects. People such as Michael Jordan, dancers such as Darcy Bussell and actors and surgeons are good examples
- Interpersonal intelligence — the ability to determine the moods, feelings and other mental states in others. Bill Clinton and Oprah Winfrey would be good examples
- Intrapersonal intelligence — the ability to know oneself and be at ease. Nelson Mandela exemplifies intrapersonal intelligence
- Naturalist intelligence — the ability to recognise and categorise natural objects. David Attenborough would be an example of someone with a naturalist intelligence

Gardner says that instead of having one general intelligence we have a portfolio of each of the intelligences, some of which are better developed than others.

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## Testing

Whatever your view about what intelligence is, it is important to find ways in which to show it.

Proponents of a general 'intelligence' test argue that almost all intelligence tests are able to test 'G' as it is the intelligence which is in evidence whatever the particular subject matter of the test.

Moreover, they argue that as this intelligence is a reliable predictor of all sorts of later achievements it is both important that children are tested as effectively as possible and that current intelligence tests should do a pretty good job.

Others — even some of those who support conventional intelligence testing — take a different view. They argue that a) tests are not as reliable a predictor of 'G' as we like to think; b) 'G' is not as good a predictor of life as its proponents would have us believe; and c) we therefore need a broader range of tests because intelligence may be something more than a single 'G' component.

Howard Gardner, as you might expect, extends this view much further. Gardner is not against identifying intelligence, but says that conventional intelligence tests only identify one or two of his intelligences. He is also strongly critical of the importance which these conventional tests have been allowed to assume. (He makes the point that if all intelligence were banned tomorrow we would still have a pretty good idea of who was intelligent and who wasn't.)

Gardner suggests that intelligence is much more effectively identified by creating practical situations which most replicate real-life situations and which mean something to the person tested.

## What does this mean for the classroom?

The idea of multiple intelligences — founded, remember, on brain research — has the most implications for teachers' work in classrooms and schools.

First, it suggests that we should begin to see all children as intelligent and set out to discover how they are intelligent rather than how they are not. (Gardner would have taken issue with the teacher who said to us of a child recently, 'She's not very bright but she's good at PE.') Gardner would believe that Venus Williams is one the most (bodily-kinaesthetically) intelligent people in the world.

Second, it supports the idea of a broad curriculum in order to address the needs of those children who may not be predominately linguistically or mathematically intelligent. A broad curriculum would not only provide them with appropriate experiences but also raise their self-esteem so that their work in other areas where they are less intelligent might develop.

Third, Gardner argues that most of the curriculum we teach can be accessed more effectively through all of the intelligences. When children have read a book, for example, teachers' questions might focus on linguistic intelligence — 'Do you think the author chose

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her words well?'; interpersonal intelligence — 'How do you think the two main characters will get on from now?' ; intrapersonal intelligence — 'How would you have felt in that situation?', and so on.

Fourth, Gardner argues that because these intelligences are located in specific areas of the brain, they are capable of being developed. We should try not only to work to the strengths of each child's portfolio of intelligences, but also actively to develop those intelligences which are weaker.

Fifth, implications for testing are clear. We might continue to use standardised tests, but they should be part of an assessment package and not all of it. Either because we need other evidence to help us balance out their unreliability or because we need more informal tests to enable children to show us what they can do in context, we need to broaden the mix of testing considerably if it is to be of any real benefit.



## Brain-Friendly Learning Learning Styles

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Recent evidence suggests that there are three main learning styles — visual, auditory and kinaesthetic. About one-third of your class will process information better if it is presented auditorily, one-third will process information better if it is presented visually and one-third will prefer kinaesthetic presentations. In a class of 30 children the normal picture is something like this:

- One or two children have difficulty learning whatever learning style is presented in the classroom
- Most children are able to cope with any presentational learning style even though they have a preference for one of them
- About five or six children have a preference for one style or another that is so profound that they can't learn unless subject matter is presented to them in that style. (That's about one-fifth of your class who are being significantly disadvantaged when there may no need for them to be.)

Some children have significant preferences for one style over the others. So before we consider the implications of learning styles in the classroom, let's explore each style in turn.

### Visual

Children (and adults) who exhibit a preference for a visual learning style may

- Enjoy reading — they would rather read than be read to; they pick up cues from body language and facial expressions
- Be particular about their clothes — appearance matters to them
- Enjoy drawing, painting, designing — they often doodle whilst thinking
- Have good visual recall — they can remember where they left things
- Interestingly, use or respond to language which reflects their visual preference, such as 'I see what you mean', 'It looks to me as if ...'

### Auditory

Children (and adults) who exhibit a preference for an auditory learning style may

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- Enjoy discussion, debates, having stories read to them
- Enjoy talking and have an excessive vocabulary for their age
- Like telling jokes, making up stories
- Relate to others through conversation and explanation
- Use language such as 'Can we talk more about it ...', 'I'd like to discuss that a little more ...'

## **Kinaesthetic**

Children (and adults) who exhibit a preference for kinaesthetic learning styles may:

- Enjoy sports and other physical activities
- Reveal emotions through body language rather than words
- Respond to people through touch
- Fidget during quiet times and find it difficult to keep still
- Learn through the use of three-dimensional equipment such as blocks and rods
- Use language such as 'The way I feel about it is ...', 'I'm not sure that I follow ...'

## **What are the implications for the classroom?**

### **Try to identify the preferred learning styles of children in your class**

It's a good idea to take a fresh look at the children you teach. Try to identify the preferences each child exhibits. It is particularly important to look at those children you teach who seem to be generally capable, but are not making the progress you think they might.

### **Think particularly carefully about the kinaesthetic learners in your class**

Kinaesthetic learners get the worst deal in classrooms. They are the fidgets, the children who can't sit still, who want to (have to!) touch that artefact you have just brought into school. In other words, kinaesthetic learners are the ones who frequently irritate us. Often, they are at a double disadvantage. Not only do we not give them sufficient opportunity to learn in their preferred style, but we also negatively impact on their self-esteem (see earlier section on emotions) by criticising them.

(This is not to say all children who give you grief in the classroom by fidgeting and touching are kinaesthetic learners. Some may just be a pain in the backside. The important thing is to recognise which children are kinaesthetic learners so that we can do something for them.)

### **Think about your own preferred style and compensate**

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We usually teach in a way that suits us, makes us feel at ease and matches our own preferred learning style. All of this takes place without us really being aware of it. But as teachers of all the children in our classes we need to find some ways to compensate for it by teaching in ways which we might otherwise ignore.

## **Provide a range of activities that use all of the learning styles.**

Not every activity has to be presented in three different ways. But we should try at significant moments during each unit of work to make sure that children have the chance to explore the most important messages in each of the three learning styles.

## **Two examples**

One school was focussing on teaching children in Year 5 and 6 key aspects of composition in writing. At a well-judged moment during the term their teacher

- Talked to the children about each aspect and read examples out to the class (auditory style)
- Encouraged children to read some stories and identify each aspect of composition as they found it (visual style)
- Organised a 'competition' in which different children — and particularly the kinaesthetic learners — acted out each aspect in an attempt to prove why their particular aspect of composition was more important than the rest (kinaesthetic style)

In another class, at the end of each piece of work on a history theme, the teacher asked groups of children to present a five-minute play which showed they had taken in the key information and begun to understand the key themes. In each group, following a discussion (auditory) one or two children wrote a simple script (visual), others made one or two simple but relevant props (kinaesthetic), someone painted a simple small backdrop illustration (visual) and some of the group acted out the play (auditory, visual and kinaesthetic). As part of the teacher's assessment each child was asked to explain how the work they had done revealed their understanding of the main learning outcomes.

The above examples show that we don't have to do that much more than we do now. The 'trick' is to make sure that at key moments we utilise each learning style in order to maximise children's learning.

In their book *Accelerated Learning for the 21st Century* (1997), Colin Rose and Malcolm J. Nicholl suggest some simple ways in which teachers can bring all three learning styles into the classroom.

## **For children who are visual learners you could:**

- Use 'mind maps' to help children record notes and information
- Encourage children to use highlighter pens and let them use a range of coloured pens when presenting their written work

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- Encourage the use of labelled diagrams and pictures as well as extended pieces of writing
- Let the children have a few minutes to visualise their work before they get down to doing it

## **For children who are auditory learners, you could encourage them to:**

- Read them out dramatically
- Summarise information out loud, perhaps by giving a short presentation to the class
- Create sound pictures or compositions to reflect key aspects of learning
- Make short tape presentations for other children to listen to

## **For kinaesthetic learners, you could:**

- Make sure that they have a chance to move every twenty-five minutes or so
- Set them the task of remembering something in the time it takes them to walk around the playground or down a corridor
- Encourage them to devise some visual actions to show their understanding of the characters or plot of a book, a period in history or a place in geography
- Enable them to learn in groups

Finally, if you can combine all three you are on to a winner. If you have ever wondered why 'Look, Cover, Write and Check' is an effective way to enable children to learn how to spell, this section may have given you one or two clues.

## Brain-Friendly Learning - Slow Thinking

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Just recently, we at the IPC were perplexed by a problem in our office. We held a meeting to talk it through but after nearly two hours were unable to come up with a way forward. As frustration began to creep in we abandoned the meeting, left the problem unresolved and arranged to bring it up again at our meeting the following week.

Early the following morning, the phone rang. It was one of our colleagues. 'Just wanted you to know that I was in the shower a few minutes ago when a solution to what we were discussing yesterday popped in to my head.' And sure enough, it had.

Most of us have benefited from what Guy Claxton has called in his book *Hare Brain, Tortoise Mind* (1997), 'slow thinking'. Think of all those times when the solution to a problem has come into your head long after you have consciously stopped 'thinking' about it.

In his book, Claxton uses evidence from research into the way the brain works to show how the brain doesn't always work as a quick response mechanism, but often deliberates over problems until a solution seems to emerge rather than be produced in the conventional sense.

The brain's ability to do this, says Claxton, is crucial, because many of the problems we face in real life are complex, often based in the messy context of individual perspectives. They don't always have 'right' answers but more appropriate ways forward. They simply aren't susceptible to quick thinking. They can only be resolved when we are able to use what Claxton calls our *undermind*.

Slow thinking is a skill much in demand in adult society. Problem-solvers are often those most highly regarded and paid most money. (Guy Claxton memorably defines wisdom as 'Good judgement in hard cases' — an ability most of us would only be too happy to list amongst those we want for our children.)

Intuitively — as any of us know who have ever been for a walk to 'clear my head' — we have always known how useful slow thinking is. Now is the time to re-emphasise it.

### The problem in schools

Claxton argues that most schooling is designed to eliminate the development of slow thinking in favour of fast thinking. (Not, by the way, that he dismisses fast thinking. He acknowledges its importance but points out that it is only important in certain life situations and not others.)

Take tests, for example. Claxton typifies tests as:

- Taking place under pressure — they usually have to be completed quickly (they also increase negative emotional responses which limits effective thinking)

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- Usually individual — very few tests involve group activities in which ideas can be kicked around and explored, often the very behaviours that those who are successful in these tests will have to exhibit later in life
- Abstract — few tests actually address issues that make a real connection with children's lives; often, tests that are written as a story are still far removed from children's actual experiences, causing them to think differently than they might otherwise
- Focused on a right answer — few tests allow the possibility of different answers from those defined by the test instructors; most are convergent rather than divergent

Claxton is not against this type of testing per se any more than he is against the kind of thinking it sets out to test. But if this is the only testing available for teachers to use and children to experience it will have a crucial influence on the quality of education children are offered.

## When is slow thinking better?

Slow thinking works best when the brain needs time to sort out complex issues, which reveals opposite characteristics to those of tests. In other words, issues where time is needed, where the problem may involve consideration of multiple perspectives, where the problems are real-world problems that will be affected by the choice of an appropriate or inappropriate response and where there is unlikely to be a 'right' answer in any case.

Claxton says that these situations are at least as important in real life as those situations that require fast thinking.

In a previous section we described the eight intelligences defined by Howard Gardner, the multiple intelligences. Some of those intelligences obviously require slow thinking — such as interpersonal and intrapersonal intelligences. Slow thinking can also be seen to be important in aspects of musical, kinaesthetic and linguistic intelligences. Think for a moment of being able to make a painting, write a story or poem or choose a sequence of musical notes so that they match or create a mood.

The second intelligence — logical mathematical — seems to be the intelligence least likely to be linked to slow thinking. But consider the scientist trying to find a cure for cancer in a laboratory or a mathematician trying to solve a complex problem. Einstein recorded how his answers often came to him when to all intents and purposes he had stopped thinking about the problem.

And just in case you think this is a little removed from primary-aged children, think about those situations in which you have tried to encourage a group of children to identify a pattern in a group of numbers and they just don't seem to get it. Or when we ask children in science to think about the evidence they have just seen and say what it might mean to them. In fact, if you think about the knowledge, skills and understanding contained in the learning outcomes of every subject we teach children it is precisely the skills and understanding aspects which are most likely to benefit from allowing the brain to think slowly rather than quickly.

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## What can we do in schools and classrooms?

### Identify times when slow thinking is likely to be profitable

Remember the argument for creating more time for slow thinking is not an argument for doing away with fast thinking. But some learning will benefit from slow thinking and will need to be taught appropriately. For example:

- Thinking of ideas for stories and poems
- Re-drafting that requires thought about whether a piece of work can be improved
- Work in maths or science that involves looking for patterns or drawing conclusions
- Designing a series of linked movements in physical education
- Thinking about the consequences of behaviour and relationships

### Try to create time for slow thinking to take place

Squeezed as we are by the literacy and numeracy strategies this is currently one of the hardest tricks for teachers to achieve. (It's easy in this context to see why teachers are concerned about the decline in extended writing amongst older children.)

Given this current situation, what can be done? Here are a few possibilities:

- Give children advance warning of tasks that would benefit from slow thinking. 'On Thursday, we are going to be writing a story based on the themes of this book we have just spoken about. Between now and then use this sheet to jot down ideas about how the story might develop
- Take advantage of the National Curriculum demands to think through which learning outcomes are the most crucial. Free up some curriculum space wherever possible to accommodate challenges that benefit from slow thinking
- Provide opportunities for children to work together. In this way, the input that feeds slow thinking is greater. It also cuts down on the time it takes to generate some possibilities to think about

### Make sure slow thinking follows considerable input

'Slow thinking' is a process of digestion and sedimentation. It works when we have the information we need but can't see how to deal with it. It's the process of letting the brain sort out everything we know before it emerges with a possible solution. But you have to provide the input first.

### Make sure that tests are appropriate

The end of key stages (and those of the intervening years), tests are only one of the ways in which children can be assessed. We need to make sure that other tests we use provide children with the opportunity to use slow thinking appropriately. When creating your own

assessments, make some time delimited, let children know the questions beforehand and set questions in a context that allows children to make an emotional connection.

## Booklist

The implications of brain research for teaching and learning are at the core of the International Primary Curriculum, and we hope that this section has triggered your interest. If you would like to find out more, here is a selection of books you should find interesting.

Claxton, Guy (1997) *Hare Brain, Tortoise Mind*, London: Fourth Estate.

Csikszentmihalyi, Mihaly (1997) *Finding Flow — The Psychology of Engagement with Everyday Life*, USA: Basic Books. (Pronounced chick-SENT-me-high.)

Dryden, Gordon and Vos, Jeanette (1997) *The Learning Revolution*, Aylesbury: Accelerated Learning Systems.

Gardner, Howard (1993) *Frames of Mind — The Theory of Multiple Intelligences*, London: Fontana.

Gardner, Howard (1993) *Multiple Intelligences — The Theory in Practice*, USA: Basic Books.

Gelb, Michael J. (1996) *Thinking for a Change*, London: Aurum Press.

Goleman, Daniel J. (1996) *Emotional Intelligence — Why It Matters More Than IQ*, London: Bloomsbury.

Gottfredson, Linda (1989) 'The general intelligence factor', *Scientific American Winter Quarterly*, 9, 4:24—9.

Jensen, Eric (1995) *Super Teaching*, USA: Turning Point Publishing.

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Rose, Colin and Nicholl, Malcolm J. (1997) *Accelerated Learning for the 21st Century*, London: Piatkus.

Markova, Dawna (1996) *The Open Mind*, USA: Conari Press.

Ornstein, Robert (1997) *The Right Mind*. USA: Harcourt Brace.

Smith, Alistair (1996) *Accelerated Learning the Classroom*, Stafford: Network Educational Press.

Smith, Alistair (1998) *Accelerated Learning in Practice*, Stafford: Network Educational Press.

Youngs, Bettie (1992) *The Vital Six Ingredients of Self Esteem: How to Develop Them in your Students*, USA: Falmer Press.

Armstrong, Thomas (1993) *Seven Kinds of Smart*, USA: Plume/Penguin.



## What is 'international' about an international curriculum?

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### **Introduction**

The International Primary Curriculum is a challenging, well established curriculum for international schools in particular and for all schools in general. Focused explicitly on developing children's learning, its structure is based on subject, personal and internationally minded learning goals and unique units of work which help children acquire knowledge, skills and understanding in active, exciting and involved classrooms.

The IPC is built, as they say, 'on the shoulders of giants'. Many aspects of it are new and unique but, like all that is developmental, it is built on what went before. This includes previous curriculums, teaching and management experiences in a range of schools and the on-going debate about the nature of elementary schools, international education and the definition of curriculum.

Any curriculum, new or old, sits in a particular context. Over time, the context changes and the curriculum has to adapt or increasingly become a museum piece. What are some of the contextual issues surrounding the development of an international curriculum?

### **The definition of curriculum**

Attempting to find an agreed definition of a curriculum isn't quite as hard as finding an agreed definition of an international school (see below) but it is getting there. Definitions of curriculum range from a series of statements about what must be learnt (Ross 2000) to a complex culture which includes the structure of knowledge, the specific content, the balance between subjects, the organisation of the school day, the resources to be used, the teaching methods and the expectations of pupils and staff (Catling 2001). Issues about the planned, delivered or received curriculum add further to the mix. Curriculum makers are largely responsible for the planned curriculum and partly responsible, by definition, for the delivered and received curricula. But how much detail should be contained in a planned curriculum is an issue that has to be decided by the curriculum maker.

### **The definition of an international school**

Following Hayden and Thompson's lead (1995) almost everyone has stopped trying to define an 'international school'. There simply isn't the space here to run the argument at length but anyone who works with international schools will know that 'The International School of X' will be a very, very different place from 'The International School of Y.' By 2000, Mary Hayden was advising us that we might be better 'not ... developing a network of international schools per se, but rather ... developing a network of schools ... which aim to promote international education'.

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Which, of course, prompts the question, 'What is international education?'

In trying to answer that question it is common to speak of 'international-mindedness', by which seems to be meant something akin to the UNESCO declaration of 1994. This identifies issues such as a sense of universal values, valuing freedom, intercultural understanding, non-violent conflict resolution and so on. This is both worthwhile and helpful, but it may be going one step too far to assume that this definition is agreed by all the stakeholders in international education.

## The organisation and working practices of international schools

Think about these few statements.

*'Relocated children need about eight months to adapt to their school.'* (Akram 1995)

*'All of my previous posts have involved moving into a post where there has been a lack of continuity amongst the staff.'* (Quoted in Hardman 2001)

*'There is less security of tenure for a headteacher in an international school than in most national schools: being fired is a frequent occurrence.'* (Blandford and Shaw 2001)

*'Research suggests two characteristics common to many effective schools. A focus on added-value student learning and an overarching consistency that contributes to a clear definition of "the way we do things around here".'* (Murphy 1995, and Deal and Kennedy 1983)

*'Change takes time.'* (Fullan 2001 and almost every writer on change)

Many children stay in international schools for no longer than two to three years as their parents move from position to position around the world. Turbulence in student numbers is higher in international schools than other schools.

What these statements suggest is that individual schools trying to create their own curriculum might have some problems. There is no doubt that it can be done, as some outstanding international schools, teachers and principals have shown. But the way in which most international schools work means that it is much harder to construct a curriculum which delivers both a consistent focus on student outcomes (internationally minded or otherwise) and help to teachers when the churn rate of students, teachers, principals, board members and parents is as high as it is. Over the considerable period of time in which it takes to develop a curriculum in such schools how can we be sure that the process retains both a sense of coordination and a keeper of the flame?

## The definition of an 'international' curriculum

The inevitable lack of clarity about the definitions of 'curriculum', 'international school' and 'international education' helps to explain why the creation of an international curriculum has to be a work in progress. Somewhere in the web of interconnecting uncertainties which surround the definitions of these three terms sit a number of nodal points around which an 'international curriculum' can also be defined.

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In the *International Schools Journal*, November 2000, Ian Hill argues that such a curriculum will:

- Contain course content which provides an international perspective
- Recognise that the world is increasingly interdependent
- Provide activities which bring students into contact with people of other cultures
- Create a context for world peace by providing opportunities for many cultures to learn together in mutual understanding and respect

But this is just one suggestion. There are a number and not one of these nodal points. So there are likely to be a number of international curricula. The task of international curricula creators, therefore, is not to ever-increasingly refine their work so that it gets closer and closer to an ideal model. It is to construct something which responds to a number of the contextual elements in international education and try to engage in a process of continual improvement.

(Let us add one further layer of complexity here. Any definition of an international curriculum implicitly suggests that such a curriculum is significantly different from a national curriculum. Is this so? It can be argued that an international curriculum shares (or should share) many of the aims, targets and procedures of national curricula. Perhaps it might be better to think of an 'internationally minded' curriculum than an 'international' one.)

## Recent brain-based evidence about learning

The last fifteen years has seen an explosion of neurological research and a complementary explosion of advice to teachers on how to use the research to impact positively on children's learning in the classroom. The particular work of neurological researchers such as Howard Gardner (1993 etc.), Michael Gazzaniga (1998 etc.) and others and the popularisation of that work by authors such as Eric Jensen (1998 etc.) and many, many others has opened up the 'black box' of the brain to far more than an input-output model of learning.

Much of that research and advice needs to be treated with caution by teachers in classrooms, partly because the evidence base from the neurological researchers isn't yet as strong as it needs to be in some important areas and partly because there has been the usual rush to jump on to a publishing or authorial background with some half-thought-out ideas.

This is a shame, because some of the evidence and the conclusions which are being drawn from this research are very helpful to teachers. Some of the evidence validates teaching and learning strategies which have been used for some time; other evidence guides us into new understandings of what might happen in classrooms for effective learning to take place. Any curricula writers hoping to help teachers improve student learning must face up to the dual task of sorting out the neurological wheat from the chaff and then incorporating it into the curricula they produce.

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## The future

It is often said that the good news is that many schools are currently doing a very successful job of educating their children. The bad news is that they are successful in educating those children to take part in a world of the 1950s and 1960s rather than the new millennium.

This is an easy, if sometimes true, jibe. But then it is easy to see why educators look backwards when the alternative is to look forward. It's just much easier to be proven wrong trying to predict the future. For those involved in designing and creating internationally minded curricula for primary and elementary-aged children the problem is even greater than for those designing late secondary or tertiary curricula. Most elementary children are unlikely to reach full working capacity for perhaps twenty to thirty years. How can we know what the world will be then?

The answer is that we can't, but we must try. A curriculum which claims to help children develop the range of knowledge, skills and understandings appropriate for their future lives can't fall back on the past entirely. The cutting edge of curriculum leadership as opposed to curriculum management is as sharp here as it is anywhere.

Three aspects of the future seem to receive common assent.

First, the muscle economy is being replaced by the knowledge economy. As technology increases, the number of children likely to earn a living by using their muscular energy will continually decrease. This is likely to be even more so for the children who receive their education in international schools.

Second, the life-long job is likely to be replaced by the portfolio of jobs. This might mean that a child currently in school will have four or five jobs over the length of their career; it might mean that at any one time they will have two or three part-time jobs. Whatever the portfolio looks like, such a future requires a revised range of personal skills and attitudes in all children which may have been in the possession of only a few in the past.

Third, the world is becoming more global. There are any number of examples of this but perhaps the warning from a Japanese company to the British government that it will move its factory out of Britain unless Britain joins the European currency (Independent 2000) is one of the most potent.

Or shall we look at the astonishing worldwide impact of the events of 11 September 2001? Or the fact that this part of the chapter is being written in Saudi Arabia just one hour after having a cup of Starbucks coffee in the shopping mall where Saudi women were carrying home bags from fashion stores found around the world?

This increasing globalisation is perhaps the single most important reason why we need to develop internationally minded curricula. In such a world it is already essential to understand, relate to and co-exist with other cultures whilst at the same time remaining a part of one's own. It will be even more important in the future.

## What is 'international' about all of this?

To try to answer this question we are going to use the work of Ken Wilber (2000) as a framework. Wilber is a difficult man to pin down. Whether as philosopher or psychologist he doesn't fit neatly into any single box.

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What does make him appealing is that he is one of the leading contemporary writers about integral theory. Wilber, and others like him, are working from a position where they attempt to see not what divides current and historical movements and ideas but what they have in common. We're going to use four of his ideas. In doing so, we hope that they will provide direction to the question which heads this chapter, one which, we hope, supports the view that internationalism is 'an integrating, rather than a differentiating, relationship.' (Al Farra 2000)

## Idea 1

'But if we remain merely at the stage of celebrating diversity, we ultimately are promoting fragmentation, alienation, separation and despair. You go your way, I go my way, we both fly apart — which is often what has happened under the reign of the pluralistic relativists .... It is not enough to recognize the many ways in which we are different; we need to go further and start recognizing the many ways in which we are also similar.'

Here, it seems, is an argument which may both support and develop the commonly held legitimacy of 'independence' and 'interdependence'.

The concepts of 'independence' and 'interdependence' feature in much current writing about international curricula, including that of Ian Hill, quoted earlier. Both are two of the guiding principles behind the International Primary Curriculum.

In the IPC we have set out with the aim of helping children discover their own national and cultural identities and to learn to live with those whose national and cultural identities are different.

If we are not careful, though, this apparently liberal and progressive approach will still result in division rather than union. The 'trick' in delivering a curriculum based on this dualistic approach is the development of tolerance, empathy and mutual understanding. We are trying to develop a view that says 'I am different and I have a right to be. You are different from me, with the same rights, but we can live together.' What's wrong with that? Whilst it's certainly better than much that we have now, if we don't actually enable tolerance, empathy and mutual understanding to be developed the net result will still be awareness of differences rather than of similarities.

Wilber challenges us to go further than this. We may well be more similar than we are different. Dylan Evans (2001) for example, quotes Paul Ekman's ground-breaking work which shows that the six basic emotions of joy, distress, anger, fear, surprise and disgust exist in all cultures.

We believe that it is important for us to encourage notions of 'independence' and 'interdependence'. But we are also coming to believe that these concepts are only likely to have the real power for change many of us invest in them if they are preceded by the knowledge and understanding that we are very similar, too.

For the 'real school' international curriculum this certainly means that 'international day', during which we celebrate our magnificent national dress or share our national cuisine, certainly isn't enough. Taking pride in providing a context in which children and students of different cultures and nationalities can co-exist alongside each other may be limiting

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our vision rather than extending it. And it is very easy to be placated by the existence of apparent interdependence without looking too closely at what is happening underneath. Perhaps the 'exit outcomes' we hope for should be bolder than this. Diversity certainly exists and we need to celebrate it. But similarities exist, too, and we need to make sure our knowledge and understanding of them co-exists with concepts which stress an essential separation rather than a coming together.

## Idea 2

'A "holon" is a whole that is a part of other wholes (Wilbur, K, 2000). For example, a whole atom is part of a whole molecule; a whole molecule is part of a whole cell; a whole cell is part of a whole organism.

Or again, a whole letter is part of a whole word, which is part of a whole sentence, which is part of a whole paragraph and so on. Reality is composed of neither wholes nor parts, but of whole/parts or holons.

Learning goals are important to any curriculum. They define what it is that the curriculum is expecting children and students to achieve at different ages and stages of their school career. They exhibit the purposefulness of the planned and delivered curriculum and express the school's intention towards the received curriculum. As current debates within the standards movement of the USA show, defining learning goals and standards is not an easy task. As Gandel and Vranek (2001) have pointed out: 'If the standards are ambiguous, they also offer no assurance that every student is learning challenging material. Too often, the standards we have reviewed tend to be imprecise and all-encompassing.'

If we can agree on what an 'international' element of the curriculum might be, and we suggest 'similarity, independence and interdependence', then we also need to agree that these desirable outcomes are not going to be achieved by osmosis. It's not enough to be well-intentioned. These 'international' elements of the curriculum need explicit learning outcomes, too.

One useful way of defining learning goals clearly is to focus on knowledge, skills and understanding. This is not an unusual approach. But what frequently seems to happen is that these separate kinds of learning goals are treated hierarchically. 'Learning for understanding' is clearly an important aim for the whole curriculum but it does not mean that understanding is somehow more important than knowledge.

Learning, and the application of that learning, is always a combination of knowledge, skills and understanding. Understanding emerges out of the combination of knowledge, plus skills, plus practice. What Guy Claxton (1998) identifies as 'slow thinking', out of which understanding eventually emerges, is actually the process through which the combination of knowledge, skills and practice develops, over time, a deepening understanding of key concepts which then helps to further develop practice.

But knowledge, skills and understanding are not hierarchical; they are holarchical. One is not better than the others. As we move from knowledge to skills to understanding each transcends but includes the others. Understanding is not possible without continual reference to knowledge, skills and application. To develop understanding does not mean to leave knowledge and skills behind. It means to include them appropriately. Imagine trying

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to 'understand' the culture of a different country without any knowledge about the country or the ability to apply, compare and contrast that knowledge with other equally relevant knowledge.

Just recently, one of our team was walking around an historic monument, trying to 'make sense' of what they were experiencing. They were having some difficulty until by a stroke of luck they managed to tag along on the fringes of a guided tour. What helped them begin to make sense of the house was the information, the factual knowledge, the tour guide was providing about a period of which they knew relatively little. Only when the knowledge became part of their mental map were they able to begin to say to themselves 'So that's why ...'

Becoming internationally minded is, we believe, no different. For curriculum designers interested in defining the international aspects of the curriculum we need to do so in ways which reflect the knowledge, skills and understanding involved in similarity, independence and interdependence at different ages and stages of a child's or student's school career. What curriculum writers must not do is to make assumptions that these ideas are only abstract and conceptual or that only abstract and conceptual ideas matter. Curriculum designers are right to focus on teaching for understanding, but things start to go wrong when teachers putting such methodologies into practice begin to devalue the knowledge component. Within each understanding is nested both knowledge and skills. It is more important for curriculum writers to define the latter than it is for them to head straight for the former.

## Idea 3

This third idea is more complex and we risk doing it a disservice. It sits at the centre of much of Wilber's work over the past twenty years during which he has spent time analysing many of the leading cross-cultural historical and contemporary movements, philosophies and trends. What he has set out to do, as you would expect of an integralist, is to see whether these movements and philosophies share anything with each other. Not, as he puts it, on the level of fine detail — partly because it would be an impossible task to look at the fine detail of each of these many groups of ideas and partly because at a finely detailed level they are almost certain to be different. His work has been concerned with looking at the 'orienting generalisations' which underpin these movements. To put it simply, we all know that composers of symphonic music have their own individual signature, but we also know that all symphonic music shares some 'orienting generalisations'. Without these, we couldn't begin to talk of some music being symphonic and other music not.

There are a number of ways in which Wilber has identified such generalisations. First, he distinguishes between 'left-hand' and 'right-hand' paths. Left-hand paths are 'interpretative, hermeneutic and about consciousnesses. Right-hand paths are 'monological, empirical and about form'. He also distinguishes between the 'individual' and the 'collective', both of which can apply to each of the paths.

With so little space to explore this idea it is better to reproduce one of Wilber's own diagrams in order to conceptualise this order more easily. By looking at each of the writers and thinkers included in each quadrant it is relatively easy to get an idea of what he is trying to say.



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Subjective		
<b>Individual</b>	Freud C G Jung Piaget Aurobindo Plotinus Gautama Buddha	B F Skinner John Watson John Locke Empiricism Behaviourism Physics, biology, neurology etc.
<b>Collective</b>	Thomas Kuhn Wilhelm Dilthey Jean Gebser Max Weber Hans-Georg Gadamer	Systems theory Talcott Parsons Auguste Comte Karl Marx Gerhard Lenski Ecological web of life

Wilber then argues that none of these quadrants is independent of the others. To stay within one quadrant is to miss the full scope of what is possible and to deny the opportunity to reach what is possible. He quotes research by the iSchaik Development Associates who act as consultants to UNICEF amongst others. In identifying a major reason for some of the past failures of UNICEF and the UN, iSchaik point out that 'UNICEF's activities have largely operated on the Upper and Lower Right-hand quadrants, that is the quadrants that are objective and exterior ... and to a large extent ignored the interior and cultural quadrants'.

Of course, such a charge cannot be set only against organisations such as UNICEF. Nor is the criticism applicable to those who seek to bring about change from only the objective and the exterior. Similar criticisms can be aimed at those who aim to bring about change from the point of view of only the interior and the cultural.

There are many examples of this in practice in education. At the macro level the initial introduction of the National Curriculum in the United Kingdom was undoubtedly objective and exterior. Even now, the increasing reliance on governmentally set targets for local authorities and then for schools in that country is further evidence that this is still the dominant mind-set. There is a little evidence that a realisation that making this count in the hearts and minds of individual teachers, the cultural communities of schools and the teaching profession is also important, but it is still unclear how much influence this view will have in practice.

Of course, it is not only at the governmental level that this happens. At the school level,



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there is plenty of evidence of both sides of the quadrant being played inappropriately. Boards of international schools are often criticised for trying to impose change through dictat and structural imposition. Heads can do likewise. It is one of the typifications of a 'masculine' rather than 'feminine' management style. But headteachers and teachers can also make the mistake that a focus on the left-hand quadrants of the interior and cultural is enough. This 'Mom, Pop and apple pie' view of the curriculum says that as long as we all believe something to be true and keep reaffirming those beliefs to each other then something good is bound to happen. In actuality, of course, such a view is as likely to be effective as plaintively asking the warring peoples of our nation, 'But why can't you just get on?'

If we believe that an 'internationally minded' curriculum is important then we need to reject such simple and single-minded views and look at the development of such a curriculum from a four-quadrant point perspective. Yes, it is important that individual teachers should be given experiences through staff development which help to develop a personally held view that an international mind-set is worthwhile. It's an important personal quality to look for when selecting candidates. It's equally important the community of the school should develop such a mind-set, too. We need to look at ways in which the culture of the school, the collective, is also internationally minded. The international community needs to proclaim powerfully the beliefs that it holds.

But it is also important that we realise that changing the hearts of the individuals and groups with which we work is not enough. Helping children develop international mind-sets of their own requires the structural components that are a hallmark of the exterior and the objective. The international elements of a curriculum need to be clearly articulated at a whole-school level; they need to be assessed or judged, while accepting that much of the appropriate evidence will be hard rather than soft. They need 'an independent measure of educational quality' (Lowe 2000). They need to be publicly accountable and capable of defence against external opposition. School structures which support an 'internationally minded' curriculum need to be as much systemic as they need to be emotional. Such right-hand processes, when combined with left-hand approaches, help the curriculum to become 'a process of guiding organisational energy rather than attempting to control and dominate' (Welton 2001).

The 'international' elements of a curriculum can no more survive without a whole-quadrant approach than can anything else in the planned and delivered curriculum. We need to do everything we can to capture the hearts of teachers, students, parents, board members and others. We also need to do everything we can to make sure that such a worthwhile element of the curriculum is formally structured and formally accountable.

## Idea 4

Wilber develops his four-quadrant view further. In looking at each quadrant, he identifies a number of stages of development within each. These stages also form a 'holarchy' rather than a hierarchy. (Another way in which Wilber defines 'holarchy' is that it is a 'growth hierarchy'; successive stages are more developed than preceding ones but one stage is not 'better' than another; it transcends and includes what has gone before it.)

In addition, each level of development in one quadrant has its correlate level of development in the other quadrant. This is not necessarily a good thing. As Wilber says,

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... this does not mean that development is nothing but sweetness and light, a series of wonderful promotions on a linear ladder of progress. For each stage of development brings not only new capacities but the possibility of disaster; not just novel potentials but novel pathologies; new strengths, new diseases.

The aftermath of 11 September 2001 provides us with just one example of such potential disasters. Many in the world sit and hope that the development of the exterior and objective (in the form of weapons of mass destruction) will be paralleled by an equal development in individual and collective morality. When one exceeds the other the imbalance is likely to be disastrous, as we have already seen in the past.

To give a brief flavour of this, here is the developmental holarchy of two of Wilber's four quadrants — the interior-individual and the exterior-collective.

The developmental changes in these two quadrants give us further insight into what an 'international' curriculum might be. The exterior-collective quadrant suggests that an understanding of 'nation/state' is a necessary part of the development of an international perspective. Curriculum writers or deliverers can't just swoop on 'international' understanding and assume that focusing on it at length with apparently well-thought-out and structured activities is going to do anything at all. 'International' is after all, 'inter' and 'national'. An international curriculum is one which makes it clear that a necessary part of the development towards 'international-mindedness' is an equally important, although not overwhelming, awareness and understanding of 'nationhood'. We can't ignore the concept of nationhood or leave it behind if we want to develop international-mindedness as well. 'International-mindedness' transcends but includes national-mindedness.

Equally, the developmental changes in the interior-individual quadrant tell us that children need to move through certain stages of individual development before they are ready to take on the complex ideas that reside within international-mindedness. The correlate is at least those of 'symbols', 'emotions' and 'rules'. In other words, even if we understand that nationhood is an integral part of international-mindedness, there's no point trying to do this at the wrong stage of a child's development. It's a waste of time.

This is important for international curriculum writers. There is no point beginning to talk of 'international-mindedness' to a two-year-old, and we need to avoid falling into the trap of believing that taking such a child to lots of foreign countries will somehow enable the development of such thinking. So the important issue is to define at which particular stage of a child's development such ideas can be introduced and what are the appropriate knowledge, skills and experiences which will give the development of 'international-mindedness' a chance.

Elementary, primary or Early Years curriculum writers have a particular job on their hands here. Much of the discussion of 'international-mindedness' seems to me to have been quite understandably hijacked by ideas and approaches which are appropriate to school leavers rather than school beginners. Both left-hand and right-hand quadrants have supported this successful hijacking. Many people we have spoken to feel left-hand personal inspiration when they talk with some of the mature students about to exit formal schooling for the last time; and many of the same people strongly support the existence of a structured curriculum based on the IB Diploma programme. This doesn't mean, however, that we can transport the concepts, methodologies and learning outcomes

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oriented towards eighteen-year-olds to a class or school of six- to twelve-year-olds. What is needed by one is not necessarily needed by the other.

## **The 'international' curriculum and the international context**

So what is 'international' about an international curriculum?

First, it is an approach that sets out to develop understandings of our similarities in addition to an acceptance of our differences and an ability to live together within those differences.

Second, it is an approach that accepts the need to define the knowledge, skills and understandings which lead to an international mind-set as rigorously as it accepts the need to define the learning outcomes for individual curriculum subjects. In doing so, it is an approach which is prepared to put as much energy into focusing on the detail of knowledge and skills as it does on enjoying the pleasure of eventual understanding.

Third, it is an approach which is as much about developing a formal curriculum and supportive systemic curriculum and management structures as it is about creating an emotional and cultural awareness and attachment to international-mindedness.

Fourth, it is an approach which accepts that the development of the knowledge, skills and understandings contained within the idea of international-mindedness is necessarily different with children and students of different ages and stages of development.

Such a view of an 'international' curriculum also enables a positive response to the context set out at the beginning of this section:

- It enables schools and others to develop a response to the need for both a planned and delivered curriculum
- It responds to the confusion in definitions about 'international schools' by supporting international-mindedness but extending the parameters to include 'similarity' as well as independence and interdependence
- It allows evidence of recent brain-based research into learning to help make decisions about what is 'internationally' appropriate at different ages and stages
- It provides the formal curriculum structures which are necessary in environments where the churn rate of students, teachers, board members and others is so high
- It helps to ensure that the preparation of children and students for a twenty-first-century world is not left to hope and good intention but is founded on rigour and purposefulness

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## The Early Years Programme — Glossary

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### **Brain-friendly learning**

A general title which encompasses the recent explosion of research into how the brain works and the implications of that research for learning and teaching in the classroom.

### **Entry point**

An activity for children that begins each unit of work and provides an exciting introduction to the work that is to follow. Entry points can last from one hour to a week, depending on the age of the children and the appropriateness of the activity.

### **Knowledge**

Those aspects of the learning goals that relate to factual information. (See also 'skills' and 'understanding'.)

### **Learning strand**

A specific statement of what children should 'know', 'be able to do' or develop an 'understanding' of. The IPC Early Years contains learning strands for four areas which are Independence and Interdependence, Exploring, Healthy Living and Communicating.

### **Milepost**

A stage by which most children should be capable of achieving certain learning goals. Milepost 1 occurs when children are seven years old; Milepost 2 when children are nine; Milepost 3 when children are aged 12.

### **Planning advice**

A section of each unit of work for teachers that provides them with subject-based background information to the issues contained within the unit.

### **Skills**

Those aspects of the learning goals that relate to things children are able to do.

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## **Theme**

A description for each unit which provides teachers with an indication of what the unit is about.

## **Title**

A description for each unit which is more likely than not to appeal to children. The theme of each unit appears before its title.

## **Understanding**

Those aspects of the learning goals that relate to the deepening awareness children develop as they apply the knowledge and skills they have learned. The wording of the learning goals — 'Children will understand ...' — is shorthand for 'Children will develop their understanding ...'

## **Unit of work**

A collection of information and activities based around a multi-disciplinary theme that provides teachers with all of the material they need to help children learn successfully.